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APPLICANTS:	Padigaru, et al.		
SERIAL NUMBER:	10/023,597	EXAMINER:	Not Yet Assigned
FILING DATE:	December 18, 2001	ART UNIT:	1645
FOR:	NOVEL PROTEINS AND NUCLEIC ACIDS ENCODING SAME		

August 30, 2002
Boston, Massachusetts

BOX SEQUENCE
Assistant Commissioner For Patents
Washington, D.C. 20231

STATEMENT IN SUPPORT OF COMPUTER READABLE FORM SUBMISSION UNDER 37 C.F.R. § 1.821(f)

I hereby state that the content of the paper and computer readable forms of the Sequence Listing, submitted in the above-identified application in accordance with 37 C.F.R. § 1.821(c) and 1.821(e), respectively, are the same. The sequence listing is supported by the specification and references incorporated therein. Therefore, no new matter is added at this time.

Respectfully submitted,

Dated: August 30, 2002

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#6

SEQUENCE LISTING

<110> Padigaru, Muralidhara
Kekuda, Ramesh
Li, Li
Ballinger, Robert A.
Casman, Stacie J.
Spytek, Kimberly A.
Baumgartner, Jason C.
Burgess, Catherine E.

<120> Novel Proteins and Nucleic Acids Encoding Same

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Cys Ala Thr Gln Met Phe Phe Phe Val Ile Leu Ala Thr Asn Asn Cys
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65 70 75 80

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85 90 95

Ala Cys Ala Asn Gln Met Phe Phe Ser Phe Met Phe Gly Phe Thr His
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180 185 190

Thr Ser Leu Phe Glu Lys Val Ile Phe Ala Cys Cys Val Phe Met Leu
195 200 205

Leu Phe Pro Phe Ser Ile Ile Val Ala Ser Tyr Ala His Ile Leu Gly
210 215 220

Thr Val Leu Gln Met His Ser Ala Gln Ala Trp Lys Lys Ala Leu Ala
225 230 235 240

Thr Cys Ser Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Ala Ala
245 250 255

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Lys Val Ala Ser Ile Phe Tyr Thr Val Leu Thr Pro Met Leu Asn Pro
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Ser Tyr Cys Leu His Gln Asp Thr Met Lys Leu Ala Cys Ser Asp Asn
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Lys Thr Asn Val Ile Tyr Gly Phe Phe Ile Ala Leu Cys Thr Met Leu
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Asp Leu Ala Leu Ile Val Leu Ser Tyr Val Leu Ile Leu Lys Thr Ile
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Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ala
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    130                 135                 140

Gly Leu Ile Leu Ala Ile Arg Ser Ile Leu Leu Val Ile Pro Phe Pro
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Phe Thr Leu Arg Arg Leu Lys Tyr Cys Gln Lys Asn Leu Leu Ser His
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Ser Tyr Cys Leu His Gln Asp Thr Met Lys Leu Ala Cys Ser Asp Asn
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Lys Thr Asn Val Ile Tyr Gly Phe Phe Ile Ala Leu Cys Thr Met Leu
        195                 200                 205

Asp Leu Ala Leu Ile Val Leu Ser Tyr Val Leu Ile Leu Lys Thr Ile
    210                 215                 220

Leu Ser Ile Ala Ser Leu Ala Glu Arg Leu Lys Ala Leu Asn Thr Cys
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Val Ser His Ile Cys Ala Val Leu Thr Phe Tyr Val Pro Ile Ile Thr
                245                 250                 255

Leu Ala Ala Met His His Phe Ala Lys His Lys Ser Pro Leu Val Val
            260                 265                 270

Ile Leu Ile Ala Asp Met Phe Leu Leu Val Pro Pro Leu Met Asn Pro
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Asn Thr Thr Leu Leu Ile Thr Ile Gln Leu Glu Ala Ser Leu His Gln
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Pro Leu Tyr Tyr Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu
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Cys Leu Thr Val Ile Pro Lys Val Leu Ala Ile Phe Trp Tyr Asp Leu
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Arg Ser Ile Ser Phe Pro Ala Cys Phe Leu Gln Met Phe Ile Met Asn
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Gly Glu Asn Val Ile Glu Asn Cys Ile Cys Ala Asn Leu Ser Val Ser
            180                 185                 190

Arg Leu Ser Cys Asp Asn Phe Thr Leu Asn Arg Ile Tyr Gln Phe Val
        195                 200                 205

Ala Gly Trp Thr Leu Leu Gly Ser Asp Leu Phe Leu Ile Phe Leu Ser
    210                 215                 220

Tyr Thr Phe Ile Leu Arg Ala Val Leu Arg Phe Lys Ala Glu Gly Ala
225                 230                 235                 240

Ala Val Lys Ala Leu Ser Thr Cys Gly Ser His Phe Ile Leu Ile Leu
                245                 250                 255

Phe Phe Ser Thr Ile Leu Leu Val Val Val Leu Thr Asn Val Ala Arg
            260                 265                 270

Lys Lys Val Pro Met Asp Ile Leu Ile Leu Leu Asn Val Leu His His
        275                 280                 285

Leu Ile Pro Pro Ala Leu Asn Pro Ile Val Tyr Gly Val Arg Thr Lys
    290                 295                 300

Glu Ile Lys Gln Gly Ile Gln Lys Leu Leu Gln Arg Gly Arg
305                 310                 315
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<210> 13
<211> 947
<212> DNA
<213> Homo sapiens

<400> 13
tgcaaacacc tccatggtga ctgagtttct tcttctcggc ttctcccacc tggccgacct 60
ccagggcttg ctcttctctg tctttctcac tatctacctg ctgaccgtgg caggcaattt 120

cctcattgtg gtgctggtct ccactgatgc tgccctccag tcccctatgt acttcttcct 180
gcgcaccctc tcggccttgg agattggcta tacgtctgtc acggtccccc tgctacttca 240
ccacctcctt actggccggc gccacatctc tcgctctgga tgtgctctcc agatgttctt 300
cttcctcttc tttggcgcca cggagtgctg cctcctggca gccatggcct atgaccgcta 360
tgcagccatc tgtgaacccc tccgctaccc actgctgctg agccaccggg tgtgtctaca 420
gctagctggg tcggcgtggg cctgtggggt gctggtgggg ctgggccaca ccccttttcat 480
cttctctttg cccttctgcg gccccaatac catcccgcag ttcttctgtg agatccagcc 540
tgtcctgcag ctggtatgtg gagacacctc gcttaatgaa ctgcagatta tcctggcaac 600
agccctcctc atcctctgcc cctttggcct catcctgggc tcctacgggc gtatcctcgt 660
taccatcttc cggatcccat ctgttgcggg ccgccgcaag gccttctcca cctgctcctc 720
ccacctgatc gtggtctccc tcttctatgg caccgcactc tttatctata ttcgccctaa 780
ggccagctac gatccggcca ctgaccctct ggtgtccctc ttctatgctg tggtcacccc 840
catcctcaac cccatcatct acagcctgcg gaacacagag gtcaaagctg ccctaaagag 900
aaccatccag aaaacggtgc ctatggagat ttgaaaaggg ggcgata 947

<210> 14
<211> 306
<212> PRT
<213> Homo sapiens

<400> 14
Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser His Leu Ala Asp Leu
1 5 10 15

Gln Gly Leu Leu Phe Ser Val Phe Leu Thr Ile Tyr Leu Leu Thr Val
20 25 30

Ala Gly Asn Phe Leu Ile Val Val Leu Val Ser Thr Asp Ala Ala Leu
35 40 45

Gln Ser Pro Met Tyr Phe Phe Leu Arg Thr Leu Ser Ala Leu Glu Ile
50 55 60

Gly Tyr Thr Ser Val Thr Val Pro Leu Leu Leu His His Leu Leu Thr
65 70 75 80

Gly Arg Arg His Ile Ser Arg Ser Gly Cys Ala Leu Gln Met Phe Phe
85 90 95

Phe Leu Phe Phe Gly Ala Thr Glu Cys Cys Leu Leu Ala Ala Met Ala
100 105 110

Tyr Asp Arg Tyr Ala Ala Ile Cys Glu Pro Leu Arg Tyr Pro Leu Leu
115 120 125

Leu Ser His Arg Val Cys Leu Gln Leu Ala Gly Ser Ala Trp Ala Cys
130 135 140

```
Gly Val Leu Val Gly Leu Gly His Thr Pro Phe Ile Phe Ser Leu Pro
145                 150                 155                 160

Phe Cys Gly Pro Asn Thr Ile Pro Gln Phe Phe Cys Glu Ile Gln Pro
                165                 170                 175

Val Leu Gln Leu Val Cys Gly Asp Thr Ser Leu Asn Glu Leu Gln Ile
            180                 185                 190

Ile Leu Ala Thr Ala Leu Leu Ile Leu Cys Pro Phe Gly Leu Ile Leu
        195                 200                 205

Gly Ser Tyr Gly Arg Ile Leu Val Thr Ile Phe Arg Ile Pro Ser Val
    210                 215                 220

Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val
225                 230                 235                 240

Val Ser Leu Phe Tyr Gly Thr Ala Leu Phe Ile Tyr Ile Arg Pro Lys
                245                 250                 255

Ala Ser Tyr Asp Pro Ala Thr Asp Pro Leu Val Ser Leu Phe Tyr Ala
            260                 265                 270

Val Val Thr Pro Ile Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Thr
        275                 280                 285

Glu Val Lys Ala Ala Leu Lys Arg Thr Ile Gln Lys Thr Val Pro Met
    290                 295                 300

Glu Ile
305
```

<210> 15
<211> 966
<212> DNA
<213> Homo sapiens

<400> 15
aaaatgctca atttcaccga tgtgacagag ttcattcttt tggggctaac gagccgtcga 60
gaatggcaag ttctcttctt catcatcttt cttgtggtct acatcatcac catggtgggc 120
aatatcggca tgatggtgtt aatcaaggtc agtcctcagc ttaacaaccc catgtacttt 180
ttcctcagtc acttgtcatt tgttgatgtg tggttttctt ccaatgtcac ccctaaaatg 240
ttggaaaacc tgttatcaga taaaaaaaca attacttatg ctggttgttt agtacagtgt 300
ttcttcttca ttgctcttgt ccatgtggaa atttttattc ttgctgcgat ggcctttgat 360
agatacatgg caattgggaa tcctctgctt tatggcagta aaatgtcaag ggttgtctgt 420

attcgactga ttactttccc ttacatttat ggttttctga cgagtctggc agcaacatta 480
tggacttacg gcttgtactt ctgtggaaaa attgagatca accatttcta ctgtgcagat 540
ccacctctca tcaaaatggc ctgtgctggg acctttgtaa aagaatatac aatgatcata 600
cttgccggca ttaacttcac atattccctg actgtaatta tcatctctta cttattcatc 660
ctcattgcca ttctgcgaat gcgctcagca gaaggaaggc agaaggcctt ttccacatgt 720
gggtcccatc tgacagctgt cattatattc tatggtactc tgatcttcat gtatctcaga 780
cgtcccacag aggagtctgt ggagcagggg aagatggtgg ctgtgttcta taccacagtg 840
atccccatgt tgaatcccat gatctacagt ctgaggaaca aggatgtgaa aaaggccatg 900
atgaaagtga tcagcagatc atgttaaaca aaataaaatc aaatttgatt taattttatc 960
ttctat 966

<210> 16
<211> 307
<212> PRT
<213> Homo sapiens

<400> 16
Met Leu Asn Phe Thr Asp Val Thr Glu Phe Ile Leu Leu Gly Leu Thr
1 5 10 15

Ser Arg Arg Glu Trp Gln Val Leu Phe Phe Ile Ile Phe Leu Val Val
20 25 30

Tyr Ile Ile Thr Met Val Gly Asn Ile Gly Met Met Val Leu Ile Lys
35 40 45

Val Ser Pro Gln Leu Asn Asn Pro Met Tyr Phe Phe Leu Ser His Leu
50 55 60

Ser Phe Val Asp Val Trp Phe Ser Ser Asn Val Thr Pro Lys Met Leu
65 70 75 80

Glu Asn Leu Leu Ser Asp Lys Lys Thr Ile Thr Tyr Ala Gly Cys Leu
85 90 95

Val Gln Cys Phe Phe Phe Ile Ala Leu Val His Val Glu Ile Phe Ile
100 105 110

Leu Ala Ala Met Ala Phe Asp Arg Tyr Met Ala Ile Gly Asn Pro Leu
115 120 125

Leu Tyr Gly Ser Lys Met Ser Arg Val Val Cys Ile Arg Leu Ile Thr
130 135 140

Phe Pro Tyr Ile Tyr Gly Phe Leu Thr Ser Leu Ala Ala Thr Leu Trp
145 150 155 160

```
Thr Tyr Gly Leu Tyr Phe Cys Gly Lys Ile Glu Ile Asn His Phe Tyr
                165                 170                 175

Cys Ala Asp Pro Pro Leu Ile Lys Met Ala Cys Ala Gly Thr Phe Val
            180                 185                 190

Lys Glu Tyr Thr Met Ile Ile Leu Ala Gly Ile Asn Phe Thr Tyr Ser
        195                 200                 205

Leu Thr Val Ile Ile Ile Ser Tyr Leu Phe Ile Leu Ile Ala Ile Leu
    210                 215                 220

Arg Met Arg Ser Ala Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Gly
225                 230                 235                 240

Ser His Leu Thr Ala Val Ile Ile Phe Tyr Gly Thr Leu Ile Phe Met
                245                 250                 255

Tyr Leu Arg Arg Pro Thr Glu Glu Ser Val Glu Gln Gly Lys Met Val
            260                 265                 270

Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Met Ile Tyr
        275                 280                 285

Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Met Met Lys Val Ile Ser
    290                 295                 300

Arg Ser Cys
305
```

<210> 17
<211> 966
<212> DNA
<213> Homo sapiens

<400> 17
aaaatgctca atttcaccga tgtgacagag ttcattcttt tggggctaac gagccgtcga 60
gaatggcaag ttctcttctt catcatcttt cttgtggtct acatcatcac catggtgggc 120
aatatcggca tgatggtgtt aatcaaggtc agtcctcagc ttaacaaccc catgtacttt 180
ttcctcagtc acttgtcatt tgttgatgtg tggttttctt ccaatgtcac ccctaaaatg 240
ttggaaaacc tgttatcaga taaaaaaaca attacttatg ctggttgttt agtacagtgt 300
ttcttcttca ttgctcttgt ccatgtggaa atttttattc ttgctgcgat ggcctttgat 360
agatacatgg caattgggaa tcctctgctt tatggcagta aaatgtcaag ggttgtctgt 420
attcgactga ttactttccc ttacatttat ggttttctga cgagtctggc agcaacatta 480
tggacttacg gcttgtactt ctgtggaaaa attgagatca accatttcta ctgtgcagat 540
ccacctctca tcaaaatggc ctgtgctggg acctttgtaa aagaatatac aatgatcata 600
cttgccggca ttaacttcac atattccctg actgtaatta tcatctctta cttattcatc 660

ctcattgcca ttctgcgaat gcgctcagca gaaggaaggc agaaggcctt ttccacatgt 720
gggtcccatc tgacagctgt cattatattc tatggtactc tgatcttcat gtatctcaga 780
cgtcccacag aggagtctgt ggagcagggg aagatggtgg ctgtgttcta taccacagtg 840
atccccatgt tgaatcccat gatctacagt ctgaggaaca aggatgtgaa aaaggccatg 900
atgaaagtga tcagcagatc atgttaaaca aaataaaatc aaatttgatt taattttatc 960
ttctat 966

<210> 18
<211> 307
<212> PRT
<213> Homo sapiens

<400> 18
Met Leu Asn Phe Thr Asp Val Thr Glu Phe Ile Leu Leu Gly Leu Thr
1 5 10 15

Ser Arg Arg Glu Trp Gln Val Leu Phe Phe Ile Ile Phe Leu Val Val
20 25 30

Tyr Ile Ile Thr Met Val Gly Asn Ile Gly Met Met Val Leu Ile Lys
35 40 45

Val Ser Pro Gln Leu Asn Asn Pro Met Tyr Phe Phe Leu Ser His Leu
50 55 60

Ser Phe Val Asp Val Trp Phe Ser Ser Asn Val Thr Pro Lys Met Leu
65 70 75 80

Glu Asn Leu Leu Ser Asp Lys Lys Thr Ile Thr Tyr Ala Gly Cys Leu
85 90 95

Val Gln Cys Phe Phe Phe Ile Ala Leu Val His Val Glu Ile Phe Ile
100 105 110

Leu Ala Ala Met Ala Phe Asp Arg Tyr Met Ala Ile Gly Asn Pro Leu
115 120 125

Leu Tyr Gly Ser Lys Met Ser Arg Val Val Cys Ile Arg Leu Ile Thr
130 135 140

Phe Pro Tyr Ile Tyr Gly Phe Leu Thr Ser Leu Ala Ala Thr Leu Trp
145 150 155 160

Thr Tyr Gly Leu Tyr Phe Cys Gly Lys Ile Glu Ile Asn His Phe Tyr
165 170 175

Cys Ala Asp Pro Pro Leu Ile Lys Met Ala Cys Ala Gly Thr Phe Val

```
            180                 185                 190

Lys Glu Tyr Thr Met Ile Ile Leu Ala Gly Ile Asn Phe Thr Tyr Ser
        195                 200                 205

Leu Thr Val Ile Ile Ile Ser Tyr Leu Phe Ile Leu Ile Ala Ile Leu
    210                 215                 220

Arg Met Arg Ser Ala Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Gly
225                 230                 235                 240

Ser His Leu Thr Ala Val Ile Ile Phe Tyr Gly Thr Leu Ile Phe Met
                245                 250                 255

Tyr Leu Arg Arg Pro Thr Glu Glu Ser Val Glu Gln Gly Lys Met Val
            260                 265                 270

Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Met Ile Tyr
        275                 280                 285

Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Met Met Lys Val Ile Ser
    290                 295                 300

Arg Ser Cys
305
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<210> 19
<211> 946
<212> DNA
<213> Homo sapiens

<400> 19
gtggacatgg aagtgggaaa ttgcaccatc ctgactgaat tcatcttgtt gggtttctca 60
gcagattccc agtggcagcc gattctattt ggagtgtttc tgatgctcta tttgataacc 120
ttgtcaggaa acatgacctt ggttatctta atccgaactg attcccactt gcatacacct 180
atgtactttt tcattggcaa tctgtctttt ttggatttct ggtatacctc tgtgtatacc 240
cccaaaatcc tggccagttg tgtctcagaa gataagcgca tttccttggc tggatgtggg 300
gctcagctgt ttttttcctg tgttgtagcc tacactgaat gctatctcct ggcagccatg 360
gcatatgacc gccatgcagc aatttgtaac ccattgcttt attcaggtac catgtccacc 420
gccctctgta ctgggcttgt tgctggctcc tacataggag gatttttgaa tgccatagcc 480
catactgcca atacattccg cctgcatttt tgtggtaaaa atatcattga ccacttttc 540
tgtgatgcac caccgttggt aaaaatgtcc tgtacagaca ccagggtcta cgaaaaagtc 600
ctgcttggtg tggtgggctt cacagtactc tccagcattc ttgctatcct gatttcctat 660
gtcaacatcc tcctggctat cctgagaatc cactcagctt caggaagaca caaggcattc 720
tccacctgtg cttcccacct catctcagtc atgctcttct atggatcatt gttgtttatg 780
tattcaaggc ctagttccac ctactcccta gagagggaca aagtagctgc tctgttctac 840
accgtgatca acccactgct caaccctctc atctatagcc tgagaaacaa agatatcaaa 900

gaggccttca ggaaagcaac acagactata caaccacaaa catgaa 946

<210> 20
<211> 312
<212> PRT
<213> Homo sapiens

<400> 20

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Met Glu Val Gly Asn Cys Thr Ile Leu Thr Glu Phe Ile Leu Leu Gly
  1               5                  10                  15

Phe Ser Ala Asp Ser Gln Trp Gln Pro Ile Leu Phe Gly Val Phe Leu
             20                  25                  30

Met Leu Tyr Leu Ile Thr Leu Ser Gly Asn Met Thr Leu Val Ile Leu
         35                  40                  45

Ile Arg Thr Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Ile Gly
     50                  55                  60

Asn Leu Ser Phe Leu Asp Phe Trp Tyr Thr Ser Val Tyr Thr Pro Lys
 65                  70                  75                  80

Ile Leu Ala Ser Cys Val Ser Glu Asp Lys Arg Ile Ser Leu Ala Gly
                 85                  90                  95

Cys Gly Ala Gln Leu Phe Phe Ser Cys Val Val Ala Tyr Thr Glu Cys
            100                 105                 110

Tyr Leu Leu Ala Ala Met Ala Tyr Asp Arg His Ala Ala Ile Cys Asn
        115                 120                 125

Pro Leu Leu Tyr Ser Gly Thr Met Ser Thr Ala Leu Cys Thr Gly Leu
    130                 135                 140

Val Ala Gly Ser Tyr Ile Gly Gly Phe Leu Asn Ala Ile Ala His Thr
145                 150                 155                 160

Ala Asn Thr Phe Arg Leu His Phe Cys Gly Lys Asn Ile Ile Asp His
                165                 170                 175

Phe Phe Cys Asp Ala Pro Pro Leu Val Lys Met Ser Cys Thr Asp Thr
            180                 185                 190

Arg Val Tyr Glu Lys Val Leu Leu Gly Val Val Gly Phe Thr Val Leu
        195                 200                 205
```

Ser Ser Ile Leu Ala Ile Leu Ile Ser Tyr Val Asn Ile Leu Leu Ala
210 215 220

Ile Leu Arg Ile His Ser Ala Ser Gly Arg His Lys Ala Phe Ser Thr
225 230 235 240

Cys Ala Ser His Leu Ile Ser Val Met Leu Phe Tyr Gly Ser Leu Leu
245 250 255

Phe Met Tyr Ser Arg Pro Ser Ser Thr Tyr Ser Leu Glu Arg Asp Lys
260 265 270

Val Ala Ala Leu Phe Tyr Thr Val Ile Asn Pro Leu Leu Asn Pro Leu
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Ile Lys Glu Ala Phe Arg Lys Ala
290 295 300

Thr Gln Thr Ile Gln Pro Gln Thr
305 310

<210> 21
<211> 927
<212> DNA
<213> Homo sapiens

<400> 21
agggatggag tttgagctct tgggcctcac cactgacccc cagctccaga ggctgctctt 60
cgtggtgttc ctgggcatgt acacagccac tctgctgggg aacctggtca tgttcctcct 120
gatccatgtg agtgccaccc tgcacacacc catgtactcc ctcctgaaga gcctctcctt 180
cttggatttc tgctactcct ccacggttgt gccccagacc ctggtgaact tcttggccaa 240
gaggaaagtg atctcttatt ttggctgcat gactcagatg ttcttctatg cgggttttgc 300
caccagtgag tgctatctca tcgctgccat ggcctatgac cgctatgccg ctatttgtaa 360
ccccctgctc tactcaacca tcatgtctcc tgaggtctgt gcctcgctga ttgtgggctc 420
ctacagtgca ggattcctca attctcttat ccacactggc tgtatcttta gtctgaaatt 480
ctgcggtgct catgtcgtca ctcacttctt ctgtgatggg ccacccatcc tgtccttgtc 540
ttgtgtagac acctcactgt gtgagatcct gctcttcatt tttgctggtt tcaacctttt 600
gagctgcacc ctcaccatct tgatctccta cttcttaatt ctcaacacca tcctgaaaat 660
gagctcggcc cagggcaggt ttaaggcatt ttccacctgt gcatcccacc tcactgccgt 720
ctgcctcttc tttggcacaa cacttttat gtacctgcgc cccaggtcca gctactcctt 780
gacccaggac cgcacagttg ctgtcatcta cacagtggtg atcccagtgc tgaacccct 840
catgtactct ttgagaaaca aggatgtgaa gaaagcttta ataaaggttt ggggtaggaa 900
aacaatggaa tgatttctca atgcatt 927

<210> 22
<211> 303

<212> PRT
<213> Homo sapiens

<400> 22

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Gly Met Glu Phe Glu Leu Leu Gly Leu Thr Thr Asp Pro Gln Leu Gln
  1               5                  10                  15

Arg Leu Leu Phe Val Val Phe Leu Gly Met Tyr Thr Ala Thr Leu Leu
             20                  25                  30

Gly Asn Leu Val Met Phe Leu Leu Ile His Val Ser Ala Thr Leu His
         35                  40                  45

Thr Pro Met Tyr Ser Leu Leu Lys Ser Leu Ser Phe Leu Asp Phe Cys
     50                  55                  60

Tyr Ser Ser Thr Val Val Pro Gln Thr Leu Val Asn Phe Leu Ala Lys
 65                  70                  75                  80

Arg Lys Val Ile Ser Tyr Phe Gly Cys Met Thr Gln Met Phe Phe Tyr
                 85                  90                  95

Ala Gly Phe Ala Thr Ser Glu Cys Tyr Leu Ile Ala Ala Met Ala Tyr
            100                 105                 110

Asp Arg Tyr Ala Ala Ile Cys Asn Pro Leu Leu Tyr Ser Thr Ile Met
        115                 120                 125

Ser Pro Glu Val Cys Ala Ser Leu Ile Val Gly Ser Tyr Ser Ala Gly
    130                 135                 140

Phe Leu Asn Ser Leu Ile His Thr Gly Cys Ile Phe Ser Leu Lys Phe
145                 150                 155                 160

Cys Gly Ala His Val Val Thr His Phe Phe Cys Asp Gly Pro Pro Ile
                165                 170                 175

Leu Ser Leu Ser Cys Val Asp Thr Ser Leu Cys Glu Ile Leu Leu Phe
            180                 185                 190

Ile Phe Ala Gly Phe Asn Leu Leu Ser Cys Thr Leu Thr Ile Leu Ile
        195                 200                 205

Ser Tyr Phe Leu Ile Leu Asn Thr Ile Leu Lys Met Ser Ser Ala Gln
    210                 215                 220

Gly Arg Phe Lys Ala Phe Ser Thr Cys Ala Ser His Leu Thr Ala Val
225                 230                 235                 240
```

```
Cys Leu Phe Phe Gly Thr Thr Leu Phe Met Tyr Leu Arg Pro Arg Ser
                245                 250                 255

Ser Tyr Ser Leu Thr Gln Asp Arg Thr Val Ala Val Ile Tyr Thr Val
            260                 265                 270

Val Ile Pro Val Leu Asn Pro Leu Met Tyr Ser Leu Arg Asn Lys Asp
        275                 280                 285

Val Lys Lys Ala Leu Ile Lys Val Trp Gly Arg Lys Thr Met Glu
    290                 295                 300
```

<210> 23
<211> 963
<212> DNA
<213> Homo sapiens

<400> 23
aatggctgcc gagaactcct cctccgtgac agagtttatc ctcgcaggct taatccacca 60
gccgggactc caggtccccg tcttcttcct gtttctaggt ttctacgcgg tcacggtggt 120
ggggaacctg ggcttgataa tcctgatagg gctcaactct cgcctgcata tccccatgta 180
ctttttcccc ttcaacttgt ccctcgtaga ttttagtttc tctacgacca tcattcccaa 240
aatgctgatg agttttgtct caaggaagaa cattatttcc ttcacagggt gtatgagtca 300
gttcttcttc ttctgtttct ttgtcttttc tgagtccttc atcctgtcgg cgatggtgga 360
ggaccgctac gtgggcatct gtaacccact gttgtacacg atcaccatgt ctccccaggt 420
gtgtttgctc cttttactgg gtgtctacgg gatgggggtt tttggggctg tggctcatac 480
aggaaatata gtgtttctca ccttttgtgc agacaacctt gtcaatcact acatgtgtga 540
catccttccc cttcttgagc tctcctgcaa cggctcttac ataaatgtcc tggtcatctt 600
tattgttgtg accgttggca ttggggtgcc cattgttgcc gtttttatct cttatggttt 660
tattctttcc agcattctcc gcgttagttc tgctgagggc aggtctaaag ccttcagtag 720
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caaacccccc tccattttac ccctggacca ggggaaagtg tcctccctgt tctataccac 840
tgtggtgccc atgtttaacc cattaatcta cagcctgagg aataaggatg tcaaacttgc 900
cctgaagaga acctttttcca gaataagctt ttcttgaaaa aaattttaga aacagaaaag 960
aga 963

<210> 24
<211> 311
<212> PRT
<213> Homo sapiens

<400> 24
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Met Ala Ala Glu Asn Ser Ser Ser Val Thr Glu Phe Ile Leu Ala Gly
  1               5                  10                  15
```

Leu Ile His Gln Pro Gly Leu Gln Val Pro Val Phe Phe Leu Phe Leu
20 25 30

Gly Phe Tyr Ala Val Thr Val Val Gly Asn Leu Gly Leu Ile Ile Leu
35 40 45

Ile Gly Leu Asn Ser Arg Leu His Ile Pro Met Tyr Phe Phe Pro Phe
50 55 60

Asn Leu Ser Leu Val Asp Phe Ser Phe Ser Thr Thr Ile Ile Pro Lys
65 70 75 80

Met Leu Met Ser Phe Val Ser Arg Lys Asn Ile Ile Ser Phe Thr Gly
85 90 95

Cys Met Ser Gln Phe Phe Phe Phe Cys Phe Phe Val Phe Ser Glu Ser
100 105 110

Phe Ile Leu Ser Ala Met Val Glu Asp Arg Tyr Val Gly Ile Cys Asn
115 120 125

Pro Leu Leu Tyr Thr Ile Thr Met Ser Pro Gln Val Cys Leu Leu Leu
130 135 140

Leu Leu Gly Val Tyr Gly Met Gly Val Phe Gly Ala Val Ala His Thr
145 150 155 160

Gly Asn Ile Val Phe Leu Thr Phe Cys Ala Asp Asn Leu Val Asn His
165 170 175

Tyr Met Cys Asp Ile Leu Pro Leu Leu Glu Leu Ser Cys Asn Gly Ser
180 185 190

Tyr Ile Asn Val Leu Val Ile Phe Ile Val Val Thr Val Gly Ile Gly
195 200 205

Val Pro Ile Val Ala Val Phe Ile Ser Tyr Gly Phe Ile Leu Ser Ser
210 215 220

Ile Leu Arg Val Ser Ser Ala Glu Gly Arg Ser Lys Ala Phe Ser Ser
225 230 235 240

Cys Ser Ser Tyr Ile Ile Ala Val Ser Leu Phe Phe Gly Ser Gly Ala
245 250 255

Phe Thr Tyr Leu Lys Pro Pro Ser Ile Leu Pro Leu Asp Gln Gly Lys
260 265 270

Val Ser Ser Leu Phe Tyr Thr Thr Val Val Pro Met Phe Asn Pro Leu
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Leu Ala Leu Lys Arg Thr
290 295 300

Phe Ser Arg Ile Ser Phe Ser
305 310

<210> 25
<211> 986
<212> DNA
<213> Homo sapiens

<400> 25
ctgttaccac aaatttattt gcaaaatgac tgcaagaaac atgacaacaa tgagtggatt 60
cctcctcatg gggttctctg acaaccatga attgcagatc ttacaggctt tgctgttttt 120
gctgacatac ctattgggct cagcagggaa cttcatcatt atcaccatca caacactgga 180
cccacagctc cagtctccaa tgtattattt tctgaagcaa ctttccactc tggacctctc 240
atccctctct gtcacagttc ctcagtatgt tgccagttcc ctggcacgaa gtggctacat 300
ttcatatggg caatgcatgc tgcagatatt tttcttcaca ggtttggcct ggagtgaaat 360
ggccactctc acagtgatgt cttatgatcg ctatgtggcc atctgcctcc cactgcacta 420
tgaggtcata atgagtccca gaaagtgcac ttgggctgtg gcagctgtgt ggctaagtgg 480
aggtatctca ggaacattat tcacagcaag tacactctct atcagattct gtggggacaa 540
aattattcac cagttcttct gtgatatccc gcaattgctc aagctctcct gctctaatga 600
ttactttgga gtactggaag tgtctacttt catgtctgta atggcctttg cctgctttgt 660
ggggattgcc ttctcctatg gccagatatt ctctacagtt ctcaggatgc cctctgctga 720
aggccgatct aaggtcttct ccacctgcct gccccatctc ttcgttgttt catttttttct 780
ctcaacaggc atttgtgcct atctaaagcc aacctcagac tcaccaactg ctttagacct 840
catgctctct atcttttaca cactactacc cccaaccctc aaccctgtta tctatagtct 900
gagaaatgag tccttgaaaa gagcactaaa gaagttactg ctaagtgaag aattcattag 960
gaaaaaatgt ttgttctatt tttagt 986

<210> 26
<211> 319
<212> PRT
<213> Homo sapiens

<400> 26
Met Thr Ala Arg Asn Met Thr Thr Met Ser Gly Phe Leu Leu Met Gly
1 5 10 15

Phe Ser Asp Asn His Glu Leu Gln Ile Leu Gln Ala Leu Leu Phe Leu
20 25 30

Leu Thr Tyr Leu Leu Gly Ser Ala Gly Asn Phe Ile Ile Ile Thr Ile

```
         35                  40                  45

Thr Thr Leu Asp Pro Gln Leu Gln Ser Pro Met Tyr Tyr Phe Leu Lys
     50                  55                  60

Gln Leu Ser Thr Leu Asp Leu Ser Ser Leu Ser Val Thr Val Pro Gln
 65                  70                  75                  80

Tyr Val Ala Ser Ser Leu Ala Arg Ser Gly Tyr Ile Ser Tyr Gly Gln
                 85                  90                  95

Cys Met Leu Gln Ile Phe Phe Phe Thr Gly Leu Ala Trp Ser Glu Met
            100                 105                 110

Ala Thr Leu Thr Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Leu
        115                 120                 125

Pro Leu His Tyr Glu Val Ile Met Ser Pro Arg Lys Cys Thr Trp Ala
    130                 135                 140

Val Ala Ala Val Trp Leu Ser Gly Gly Ile Ser Gly Thr Leu Phe Thr
145                 150                 155                 160

Ala Ser Thr Leu Ser Ile Arg Phe Cys Gly Asp Lys Ile Ile His Gln
                165                 170                 175

Phe Phe Cys Asp Ile Pro Gln Leu Leu Lys Leu Ser Cys Ser Asn Asp
            180                 185                 190

Tyr Phe Gly Val Leu Glu Val Ser Thr Phe Met Ser Val Met Ala Phe
        195                 200                 205

Ala Cys Phe Val Gly Ile Ala Phe Ser Tyr Gly Gln Ile Phe Ser Thr
    210                 215                 220

Val Leu Arg Met Pro Ser Ala Glu Gly Arg Ser Lys Val Phe Ser Thr
225                 230                 235                 240

Cys Leu Pro His Leu Phe Val Val Ser Phe Phe Leu Ser Thr Gly Ile
                245                 250                 255

Cys Ala Tyr Leu Lys Pro Thr Ser Asp Ser Pro Thr Ala Leu Asp Leu
            260                 265                 270

Met Leu Ser Ile Phe Tyr Thr Leu Leu Pro Pro Thr Leu Asn Pro Val
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Glu Ser Leu Lys Arg Ala Leu Lys Lys Leu
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290 295 300

Leu Leu Ser Glu Glu Phe Ile Arg Lys Lys Cys Leu Phe Tyr Phe
305 310 315

<210> 27
<211> 986
<212> DNA
<213> Homo sapiens

<400> 27
ctgttaccac aaatttattt gcaaaatgac tgcaagaaac atgacaacaa tgagtggatt 60
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gctgacatac ctattgggct cagcagggaa cttcatcatt atcaccatca caacactgga 180
cccacagctc cagtctccaa tgtattattt tctgaagcaa ctttccactc tggacctctc 240
atccctctct gtcacagttc ctcagtatgt tgccagttcc ctggcacgaa gtggctacat 300
ttcatatggg caatgcatgc tgcagatatt tttcttcaca ggtttggcct ggagtgaaat 360
ggccactctc acagtgatgt cttatgatcg ctatgtggcc atctgcctcc cactgcacta 420
tgaggtcata atgagtccca gaaagtgcac ttgggctgtg gcagctgtgt ggctaagtgg 480
aggtatctca ggaacattat tcacagcaag tacactctct atcagattct gtggggacaa 540
aattattcac cagttcttct gtgatatccc gcaattgctc aagctctcct gctctaatga 600
ttactttgga gtactggaag tgtctacttt catgtctgta atggcctttg cctgctttgt 660
ggggattgcc ttctcctatg gccagatatt ctctacagtt ctcaggatgc cctctgctga 720
aggccgatct aaggtcttct ccacctgcct gccccatctc ttcgttgttt catttttttct 780
ctcaacaggc atttgtgcct atctaaagcc aacctcagac tcaccaactg ctttagacct 840
catgctctct atcttttaca cactactacc cccaaccctc aaccctgtta tctatagtct 900
gagaaatgag tccttgaaaa gagcactaaa gaagttactg ctaagtgaag aattcattag 960
gaaaaaatgt ttgttctatt tttagt 986

<210> 28
<211> 319
<212> PRT
<213> Homo sapiens

<400> 28
Met Thr Ala Arg Asn Met Thr Thr Met Ser Gly Phe Leu Leu Met Gly
1 5 10 15

Phe Ser Asp Asn His Glu Leu Gln Ile Leu Gln Ala Leu Leu Phe Leu
20 25 30

Leu Thr Tyr Leu Leu Gly Ser Ala Gly Asn Phe Ile Ile Ile Thr Ile
35 40 45

Thr Thr Leu Asp Pro Gln Leu Gln Ser Pro Met Tyr Tyr Phe Leu Lys
50 55 60

```
Gln Leu Ser Thr Leu Asp Leu Ser Ser Leu Ser Val Thr Val Pro Gln
 65                  70                  75                  80

Tyr Val Ala Ser Ser Leu Ala Arg Ser Gly Tyr Ile Ser Tyr Gly Gln
                 85                  90                  95

Cys Met Leu Gln Ile Phe Phe Phe Thr Gly Leu Ala Trp Ser Glu Met
            100                 105                 110

Ala Thr Leu Thr Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Leu
        115                 120                 125

Pro Leu His Tyr Glu Val Ile Met Ser Pro Arg Lys Cys Thr Trp Ala
    130                 135                 140

Val Ala Ala Val Trp Leu Ser Gly Gly Ile Ser Gly Thr Leu Phe Thr
145                 150                 155                 160

Ala Ser Thr Leu Ser Ile Arg Phe Cys Gly Asp Lys Ile Ile His Gln
                165                 170                 175

Phe Phe Cys Asp Ile Pro Gln Leu Leu Lys Leu Ser Cys Ser Asn Asp
            180                 185                 190

Tyr Phe Gly Val Leu Glu Val Ser Thr Phe Met Ser Val Met Ala Phe
        195                 200                 205

Ala Cys Phe Val Gly Ile Ala Phe Ser Tyr Gly Gln Ile Phe Ser Thr
    210                 215                 220

Val Leu Arg Met Pro Ser Ala Glu Gly Arg Ser Lys Val Phe Ser Thr
225                 230                 235                 240

Cys Leu Pro His Leu Phe Val Val Ser Phe Phe Leu Ser Thr Gly Ile
                245                 250                 255

Cys Ala Tyr Leu Lys Pro Thr Ser Asp Ser Pro Thr Ala Leu Asp Leu
            260                 265                 270

Met Leu Ser Ile Phe Tyr Thr Leu Leu Pro Pro Thr Leu Asn Pro Val
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Glu Ser Leu Lys Arg Ala Leu Lys Lys Leu
    290                 295                 300

Leu Leu Ser Glu Glu Phe Ile Arg Lys Lys Cys Leu Phe Tyr Phe
305                 310                 315
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<210> 29
<211> 918
<212> DNA
<213> Homo sapiens

<400> 29
tcatgggtcg aggaaacagc actgaagtga ctgaattcca tcttctggga tttggtgtcc 60
aacacgaatt tcagcatgtc cttttcattg tacttcttct tatctatgtg acctccctga 120
taggaaatat tggaatgatc ttactcatca agaccgattc cagacttcaa acacccatgt 180
actttttcc acaacatttg gcttttgttg atatctgtta tacttctgct atcactccca 240
agatgctcca aagcttcaca gaagaaaata atttgataac atttcggggc tgtgtgatac 300
aattcttagt ttatgcaaca tttgcaacca gtgactgtta cctcctagct attatggcaa 360
tggattgtta tgttgccatc tgtaagcccc ttcgctatcc catgatcatg tcccaaacag 420
tctacatcca actcgtagct ggctcatata ttataggctc aataaatgcc tctgtacata 480
caggttttac attttcactg tccttctgca agtctaataa aatcaatcac tttttctgtg 540
atggtctccc aattcttgcc ctttcatgct ccaacattga catcaacatc attctagatg 600
ttgtctttgt gggatttgac ttgatgttca ctgagttggt catcatcttt tcctacatct 660
acattatggt caccatcctg aagatgtctt ctactgctgg gaggaaaaaa tccttctcca 720
catgtgcctc ccacctgaca gcagtaacca ttttctatgg gacactctct tacatgtact 780
tacagcctca gtctaataat tctcaggaga atatgaaagt agcctctata ttttatggca 840
ctgttattcc catgttgaat cctttaatct atagcttgag aaataaggaa ggaaaataag 900
ctttaaaaga gatgcgag 918

<210> 30
<211> 298
<212> PRT
<213> Homo sapiens

<400> 30
Met Gly Arg Gly Asn Ser Thr Glu Val Thr Glu Phe His Leu Leu Gly
1 5 10 15

Phe Gly Val Gln His Glu Phe Gln His Val Leu Phe Ile Val Leu Leu
20 25 30

Leu Ile Tyr Val Thr Ser Leu Ile Gly Asn Ile Gly Met Ile Leu Leu
35 40 45

Ile Lys Thr Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Pro Gln
50 55 60

His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
65 70 75 80

Met Leu Gln Ser Phe Thr Glu Glu Asn Asn Leu Ile Thr Phe Arg Gly

85 90 95

Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
100 105 110

Tyr Leu Leu Ala Ile Met Ala Met Asp Cys Tyr Val Ala Ile Cys Lys
115 120 125

Pro Leu Arg Tyr Pro Met Ile Met Ser Gln Thr Val Tyr Ile Gln Leu
130 135 140

Val Ala Gly Ser Tyr Ile Ile Gly Ser Ile Asn Ala Ser Val His Thr
145 150 155 160

Gly Phe Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Lys Ile Asn His
165 170 175

Phe Phe Cys Asp Gly Leu Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile
180 185 190

Asp Ile Asn Ile Ile Leu Asp Val Val Phe Val Gly Phe Asp Leu Met
195 200 205

Phe Thr Glu Leu Val Ile Ile Phe Ser Tyr Ile Tyr Ile Met Val Thr
210 215 220

Ile Leu Lys Met Ser Ser Thr Ala Gly Arg Lys Lys Ser Phe Ser Thr
225 230 235 240

Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser
245 250 255

Tyr Met Tyr Leu Gln Pro Gln Ser Asn Asn Ser Gln Glu Asn Met Lys
260 265 270

Val Ala Ser Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Gly Lys
290 295

<210> 31
<211> 920
<212> DNA
<213> Homo sapiens

<400> 31

agtcatgggt cgaggaaaca gcactgaagt gactgaattc catcttctgg gatttggtgt 60
ccaacacgaa tttcagcatg tccttttcat tgtacttctt cttatctatg tgacctccct 120
gataggaaat attggaatga tcttactcat caagaccgat tccagacttc aaacacccat 180
gtacttttt ccacaacatt tggcttttgt tgatatctgt tatacttctg ctatcactcc 240
caagatgctc caaagcttca cagaagaaaa taatttgata acatttcggg gctgtgtgat 300
acaattctta gtttatgcaa catttgcaac cagtgactgt tacctcctag ctattatggc 360
aatggattgt tatgttgcca tctgtaagcc ccttcgctat cccatgatca tgtcccaaac 420
agtctacatc caactcgtag ctggctcata tattataggc tcaataaatg cctctgtaca 480
tacaggtttt acattttcac tgtccttctg caagtctaat aaaatcaatc actttttctg 540
tgatggtctc ccaattcttg ccctttcatg ctccaacatt gacatcaaca tcattctaga 600
tgttgtcttt gtgggatttg acttgatgtt cactgagttg gtcatcatct tttcctacat 660
ctacattatg gtcaccatcc tgaagatgtc ttctactgct gggaggaaaa aatccttctc 720
cacatgtgcc tcccacctga cagcagtaac cattttctat gggacactct cttacatgta 780
cttacagcct cagtctaata attctcagga gaatatgaaa gtagcctcta tattttatgg 840
cactgttatt tccatgttga atcctttaat ctatagcttg agaaataagg aaggaaaata 900
agctttaaaa gagatgcgag 920

<210> 32
<211> 298
<212> PRT
<213> Homo sapiens

<400> 32
Met Gly Arg Gly Asn Ser Thr Glu Val Thr Glu Phe His Leu Leu Gly
1 5 10 15

Phe Gly Val Gln His Glu Phe Gln His Val Leu Phe Ile Val Leu Leu
20 25 30

Leu Ile Tyr Val Thr Ser Leu Ile Gly Asn Ile Gly Met Ile Leu Leu
35 40 45

Ile Lys Thr Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Pro Gln
50 55 60

His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
65 70 75 80

Met Leu Gln Ser Phe Thr Glu Glu Asn Asn Leu Ile Thr Phe Arg Gly
85 90 95

Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
100 105 110

Tyr Leu Leu Ala Ile Met Ala Met Asp Cys Tyr Val Ala Ile Cys Lys
115 120 125

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Pro Leu Arg Tyr Pro Met Ile Met Ser Gln Thr Val Tyr Ile Gln Leu
    130                 135                 140

Val Ala Gly Ser Tyr Ile Ile Gly Ser Ile Asn Ala Ser Val His Thr
145                 150                 155                 160

Gly Phe Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Lys Ile Asn His
                165                 170                 175

Phe Phe Cys Asp Gly Leu Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile
            180                 185                 190

Asp Ile Asn Ile Ile Leu Asp Val Val Phe Val Gly Phe Asp Leu Met
        195                 200                 205

Phe Thr Glu Leu Val Ile Ile Phe Ser Tyr Ile Tyr Ile Met Val Thr
    210                 215                 220

Ile Leu Lys Met Ser Ser Thr Ala Gly Arg Lys Lys Ser Phe Ser Thr
225                 230                 235                 240

Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser
                245                 250                 255

Tyr Met Tyr Leu Gln Pro Gln Ser Asn Asn Ser Gln Glu Asn Met Lys
            260                 265                 270

Val Ala Ser Ile Phe Tyr Gly Thr Val Ile Ser Met Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Glu Gly Lys
    290                 295
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<210> 33
<211> 925
<212> DNA
<213> Homo sapiens

<400> 33
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cctgagctgc agattcccct ttttggagtc ttcctcgtca tctacctaat cacagtggtg 120
ggcaacctaa ctatgatcat tttgaccaaa ctggactccc acttacatac acctatgtac 180
ttttctatca gacatttggc ttctgttgat cttggtaatt ctactgtcat ttgtcccaag 240
gtgctggcaa attttgttgt ggatcgaaat actatttcct attatgcatg tgctgcacag 300
ctggcattct tccttatgtt cattatcagt gaatttttca tcctgtcagc catggcctat 360
gaccgctatg tggccatttg taaccctctg ctctattatg ttattatgtc tcagcgactg 420
tgtcatgtac tggtgggcat tcaatatctc tacagcacat ttcaggctct gatgttcact 480

attaagattt ttacattgac cttctgtggc tctaatgtca tcagtcattt ttactgtgat 540
gatgttcctt tgctacctat gctttgctca aatgcacagg aaatagaatt gttgagcata 600
ctatttctg tatttaattt gatctcctcc tttctgatag tcttagtgtc ctacatgttg 660
attttgttag ctatatgtca aatgcattct gcagagggca ggaaaaaggc tttctccaca 720
tgtggttccc atttgacagt ggtggttgtg ttctatgggt ctctactctt catgtacatg 780
cagcccaatt ccactcactt ctttgatact gataaaatgg cttctgtgtt ttacacttta 840
gtaatcccca tgcttaaccc tttgatttac agcttaagaa acgaagaggt gaaaaatgcc 900
ttctataagc tctttgagaa ttgat 925

<210> 34
<211> 307
<212> PRT
<213> Homo sapiens

<400> 34
Met Gly Gln His Asn Leu Thr Val Leu Thr Glu Phe Ile Leu Met Glu
1 5 10 15

Leu Thr Arg Arg Pro Glu Leu Gln Ile Pro Leu Phe Gly Val Phe Leu
20 25 30

Val Ile Tyr Leu Ile Thr Val Val Gly Asn Leu Thr Met Ile Ile Leu
35 40 45

Thr Lys Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Ser Ile Arg
50 55 60

His Leu Ala Ser Val Asp Leu Gly Asn Ser Thr Val Ile Cys Pro Lys
65 70 75 80

Val Leu Ala Asn Phe Val Val Asp Arg Asn Thr Ile Ser Tyr Tyr Ala
85 90 95

Cys Ala Ala Gln Leu Ala Phe Phe Leu Met Phe Ile Ile Ser Glu Phe
100 105 110

Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
115 120 125

Pro Leu Leu Tyr Tyr Val Ile Met Ser Gln Arg Leu Cys His Val Leu
130 135 140

Val Gly Ile Gln Tyr Leu Tyr Ser Thr Phe Gln Ala Leu Met Phe Thr
145 150 155 160

Ile Lys Ile Phe Thr Leu Thr Phe Cys Gly Ser Asn Val Ile Ser His
165 170 175

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Phe Tyr Cys Asp Asp Val Pro Leu Leu Pro Met Leu Cys Ser Asn Ala
            180                 185                 190

Gln Glu Ile Glu Leu Leu Ser Ile Leu Phe Ser Val Phe Asn Leu Ile
        195                 200                 205

Ser Ser Phe Leu Ile Val Leu Val Ser Tyr Met Leu Ile Leu Leu Ala
    210                 215                 220

Ile Cys Gln Met His Ser Ala Glu Gly Arg Lys Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Gly Ser His Leu Thr Val Val Val Val Phe Tyr Gly Ser Leu Leu
                245                 250                 255

Phe Met Tyr Met Gln Pro Asn Ser Thr His Phe Phe Asp Thr Asp Lys
            260                 265                 270

Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Glu Glu Val Lys Asn Ala Phe Tyr Lys Leu
    290                 295                 300

Phe Glu Asn
305
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<210> 35
<211> 925
<212> DNA
<213> Homo sapiens

<400> 35
atgggccaac acaatctaac agtgctaact gaattcattc tgatggaact cacaaggcgg 60
cctgagctgc agattcccct ttttggagtc ttcctcgtca tctacctaat cacagtggtg 120
ggcaacctaa ctatgatcat tttgaccaaa ctggactccc acttacatac acctatgtac 180
ttttctatca gacatttggc ttctgttgat cttggtaatt ctactgtcat ttgtcccaag 240
gtgctggcaa attttgttgt ggatcgaaat actatttcct attatgcatg tgctgcacag 300
ctggcattct tccttatgtt cattatcagt gaatttttca tcctgtcagc catggcctat 360
gaccgctatg tggccatttg taaccctctg ctctattatg ttattatgtc tcagcgactg 420
tgtcatgtac tggtgggcat tcaatatctc tacagcacat ttcaggctct gatgttcact 480
attaagattt ttacattgac cttctgtggc tctaatgtca tcagtcattt ttactgtgat 540
gatgttcctt tgctacctat gctttgctca aatgcacagg aaatagaatt gttgagcata 600
ctatttttctg tatttaattt gatctcctcc tttctgatag tcttagtgtc ctacatgttg 660
attttgttag ctatatgtca aatgcattct gcagagggca ggaaaaaggc tttctccaca 720
tgtggttccc atttgacagt ggtggttgtg ttctatgggc ctctactctt catgtacatg 780

cagcccaatt ccactcactt ctttgatact gataaaatgg cttctgtgtt ttacacttta 840
gtaatcccca tgcttaaccc tttgatttac agcttaagaa acgaagaggt gaaaaatgcc 900
ttctataagc tctttgagaa ttgat 925

<210> 36
<211> 307
<212> PRT
<213> Homo sapiens

<400> 36
Met Gly Gln His Asn Leu Thr Val Leu Thr Glu Phe Ile Leu Met Glu
1 5 10 15

Leu Thr Arg Arg Pro Glu Leu Gln Ile Pro Leu Phe Gly Val Phe Leu
20 25 30

Val Ile Tyr Leu Ile Thr Val Val Gly Asn Leu Thr Met Ile Ile Leu
35 40 45

Thr Lys Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Ser Ile Arg
50 55 60

His Leu Ala Ser Val Asp Leu Gly Asn Ser Thr Val Ile Cys Pro Lys
65 70 75 80

Val Leu Ala Asn Phe Val Val Asp Arg Asn Thr Ile Ser Tyr Tyr Ala
85 90 95

Cys Ala Ala Gln Leu Ala Phe Phe Leu Met Phe Ile Ile Ser Glu Phe
100 105 110

Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
115 120 125

Pro Leu Leu Tyr Tyr Val Ile Met Ser Gln Arg Leu Cys His Val Leu
130 135 140

Val Gly Ile Gln Tyr Leu Tyr Ser Thr Phe Gln Ala Leu Met Phe Thr
145 150 155 160

Ile Lys Ile Phe Thr Leu Thr Phe Cys Gly Ser Asn Val Ile Ser His
165 170 175

Phe Tyr Cys Asp Asp Val Pro Leu Leu Pro Met Leu Cys Ser Asn Ala
180 185 190

Gln Glu Ile Glu Leu Leu Ser Ile Leu Phe Ser Val Phe Asn Leu Ile

195 200 205

Ser Ser Phe Leu Ile Val Leu Val Ser Tyr Met Leu Ile Leu Leu Ala
210 215 220

Ile Cys Gln Met His Ser Ala Glu Gly Arg Lys Lys Ala Phe Ser Thr
225 230 235 240

Cys Gly Ser His Leu Thr Val Val Val Val Phe Tyr Gly Pro Leu Leu
245 250 255

Phe Met Tyr Met Gln Pro Asn Ser Thr His Phe Phe Asp Thr Asp Lys
260 265 270

Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu
275 280 285

Ile Tyr Ser Leu Arg Asn Glu Glu Val Lys Asn Ala Phe Tyr Lys Leu
290 295 300

Phe Glu Asn
305

<210> 37
<211> 1071
<212> DNA
<213> Homo sapiens

<400> 37
aattttaact gttaatacta atatgtggat caataatcag agctcagtag atgacttcat 60
cttattggga ttttctgacc ggccttggct ggagacacct ctctttgtaa tttttctggt 120
ggcctacatc tttgccttat ttggtaatat ctccattatc ctagtttccc gcctagaccc 180
ccagcttgac agccccatgt actttttttgt ctccaacctt tctcttctgg acctctgcta 240
tactacgagc actgtccctc agatgttggt caaccttaga gggcctgaaa agaccatcag 300
ctatggtggc tgtgtggccc agctctatat tttcttggct ttgggctcaa ctgaatgtat 360
ccttctggcc atcatggcct ttgaccgttt tgctgccatt tgcagacccc ttcactatcc 420
tatcatcatg aaccagaaac gatgcattca tatggccaca gggacctgga ttagcggatt 480
tgcaaactct cttgtgcagt ccaccctcac tgtggtagcc cccaggtgtg gacagagggt 540
aatagaccat ttcttctgtg aagtcccagc ccttttgaaa ctagcttgca ctgacacaag 600
tgtgaatgaa gctgagctta atgttcttgg agctttgctg ctcttggtgc ctctcagcct 660
catcctgggt acctatgtgt tcattgctca agcagtactg aaactccgtt ctgctgagag 720
tcgcaggaag gcatttaata cctgtgcttc acatctgctg gtggtctccc tcttctactt 780
cacagctatc agtatgtatg ttcagcctcc ctcaagctac tctcatgaaa ggggcaagat 840
catggctctg ttctatggca ttgtcacacc taccctcaac ccattcatct acactttgag 900
gaataaggat gttaaggctg ccctgaggag ggcactaaca aaggagtttt gggtcaaggc 960
aaggcaatag ctagagaaag atcaaagaag caagaattaa cagatttgct tctcaaagac 1020
aattctggac ttggaattca tgaggaatca aatgccacag agatcacaag a 1071

<210> 38
<211> 315
<212> PRT
<213> Homo sapiens

<400> 38
Met Trp Ile Asn Asn Gln Ser Ser Val Asp Asp Phe Ile Leu Leu Gly
1 5 10 15

Phe Ser Asp Arg Pro Trp Leu Glu Thr Pro Leu Phe Val Ile Phe Leu
20 25 30

Val Ala Tyr Ile Phe Ala Leu Phe Gly Asn Ile Ser Ile Ile Leu Val
35 40 45

Ser Arg Leu Asp Pro Gln Leu Asp Ser Pro Met Tyr Phe Phe Val Ser
50 55 60

Asn Leu Ser Leu Leu Asp Leu Cys Tyr Thr Thr Ser Thr Val Pro Gln
65 70 75 80

Met Leu Val Asn Leu Arg Gly Pro Glu Lys Thr Ile Ser Tyr Gly Gly
85 90 95

Cys Val Ala Gln Leu Tyr Ile Phe Leu Ala Leu Gly Ser Thr Glu Cys
100 105 110

Ile Leu Leu Ala Ile Met Ala Phe Asp Arg Phe Ala Ala Ile Cys Arg
115 120 125

Pro Leu His Tyr Pro Ile Ile Met Asn Gln Lys Arg Cys Ile His Met
130 135 140

Ala Thr Gly Thr Trp Ile Ser Gly Phe Ala Asn Ser Leu Val Gln Ser
145 150 155 160

Thr Leu Thr Val Val Ala Pro Arg Cys Gly Gln Arg Val Ile Asp His
165 170 175

Phe Phe Cys Glu Val Pro Ala Leu Leu Lys Leu Ala Cys Thr Asp Thr
180 185 190

Ser Val Asn Glu Ala Glu Leu Asn Val Leu Gly Ala Leu Leu Leu Leu
195 200 205

Val Pro Leu Ser Leu Ile Leu Gly Thr Tyr Val Phe Ile Ala Gln Ala

```
    210                 215                 220

Val Leu Lys Leu Arg Ser Ala Glu Ser Arg Arg Lys Ala Phe Asn Thr
225                 230                 235                 240

Cys Ala Ser His Leu Leu Val Val Ser Leu Phe Tyr Phe Thr Ala Ile
                245                 250                 255

Ser Met Tyr Val Gln Pro Pro Ser Ser Tyr Ser His Glu Arg Gly Lys
            260                 265                 270

Ile Met Ala Leu Phe Tyr Gly Ile Val Thr Pro Thr Leu Asn Pro Phe
        275                 280                 285

Ile Tyr Thr Leu Arg Asn Lys Asp Val Lys Ala Ala Leu Arg Arg Ala
    290                 295                 300

Leu Thr Lys Glu Phe Trp Val Lys Ala Arg Gln
305                 310                 315
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<210> 39
<211> 1071
<212> DNA
<213> Homo sapiens

<400> 39
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ggcctacatc tttgccttat ttggtaatat ctccattatc ctagtttccc gcctagaccc 180
ccagcttgac agccccatgt actttttttgt ctccaacctt tctcttctgg acctctgcta 240
tactacgagc actgtccctc agatgttggt caaccttaga gggcctgaaa agaccatcag 300
ctatggtggc tgtgtggccc agctctatat tttcttggct ttgggctcaa ctgaatgtat 360
ccttctggcc atcatggcct ttgaccgttt tgctgccatt tgcagacccc ttcactatcc 420
tatcatcatg aaccagaaac gatgcattca tatggccaca gggacctgga ttagcggatt 480
tgcaaactct cttgtgcagt ccaccctcac tgtggtagcc cccaggtgtg gacagagggt 540
aatagaccat ttcttctgtg aagtcccagc ccttttgaaa ctagcttgca ctgacacaag 600
tgtgaatgaa gctgagctta atgttcttgg agctttgctg ctcttggtgc ctctcagcct 660
catcctgggt acctatgtgt tcattgctca agcagtactg aaactccgtt ctgctgagag 720
tcgcaggaag gcatttaata cctgtgcttc acatctgctg gtggtctccc tcttctactt 780
cacagctatc agtatgtatg ttcagcctcc ctcaagctac tctcatgaaa ggggcaagat 840
catggctctg ttctatggca ttgtcacacc taccctcaac ccattcatct acactttgag 900
gaataaggat gttaaggctg ccctgaggag ggcactaaca aaggagtttt gggtcaaggc 960
aaggcaatag ctagagaaag atcaaagaag caagaattaa cagatttgct tctcaaagac 1020
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<210> 40

<211> 315
<212> PRT
<213> Homo sapiens

<400> 40
Met Trp Ile Asn Asn Gln Ser Ser Val Asp Asp Phe Ile Leu Leu Gly
1 5 10 15

Phe Ser Asp Arg Pro Trp Leu Glu Thr Pro Leu Phe Val Ile Phe Leu
20 25 30

Val Ala Tyr Ile Phe Ala Leu Phe Gly Asn Ile Ser Ile Ile Leu Val
35 40 45

Ser Arg Leu Asp Pro Gln Leu Asp Ser Pro Met Tyr Phe Phe Val Ser
50 55 60

Asn Leu Ser Leu Leu Asp Leu Cys Tyr Thr Thr Ser Thr Val Pro Gln
65 70 75 80

Met Leu Val Asn Leu Arg Gly Pro Glu Lys Thr Ile Ser Tyr Gly Gly
85 90 95

Cys Val Ala Gln Leu Tyr Ile Phe Leu Ala Leu Gly Ser Thr Glu Cys
100 105 110

Ile Leu Leu Ala Ile Met Ala Phe Asp Arg Phe Ala Ala Ile Cys Arg
115 120 125

Pro Leu His Tyr Pro Ile Ile Met Asn Gln Lys Arg Cys Ile His Met
130 135 140

Ala Thr Gly Thr Trp Ile Ser Gly Phe Ala Asn Ser Leu Val Gln Ser
145 150 155 160

Thr Leu Thr Val Val Ala Pro Arg Cys Gly Gln Arg Val Ile Asp His
165 170 175

Phe Phe Cys Glu Val Pro Ala Leu Leu Lys Leu Ala Cys Thr Asp Thr
180 185 190

Ser Val Asn Glu Ala Glu Leu Asn Val Leu Gly Ala Leu Leu Leu Leu
195 200 205

Val Pro Leu Ser Leu Ile Leu Gly Thr Tyr Val Phe Ile Ala Gln Ala
210 215 220

Val Leu Lys Leu Arg Ser Ala Glu Ser Arg Arg Lys Ala Phe Asn Thr

225 230 235 240

Cys Ala Ser His Leu Leu Val Val Ser Leu Phe Tyr Phe Thr Ala Ile
245 250 255

Ser Met Tyr Val Gln Pro Pro Ser Ser Tyr Ser His Glu Arg Gly Lys
260 265 270

Ile Met Ala Leu Phe Tyr Gly Ile Val Thr Pro Thr Leu Asn Pro Phe
275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Val Lys Ala Ala Leu Arg Arg Ala
290 295 300

Leu Thr Lys Glu Phe Trp Val Lys Ala Arg Gln
305 310 315

<210> 41
<211> 947
<212> DNA
<213> Homo sapiens

<400> 41
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ctgggaaacc tgctaatcat tgcccttgtt cgactggatt cccatctcca cacaccaatg 180
tacttgtttc tcagcaactt gtccttctct gatctctgct tttcctctgt cacaatcccc 240
aaattgcttc agaacatgca gagccaagta ccatctatat cttatgttgg ctgcctgaca 300
cagctgtact tctttatggt ttttggagat atggaaagct ttcttcttgt ggtcatggcc 360
tatgatcgtt atgtggccat ctgctttcct ttgcattaca ccagcatcat gagtaccaag 420
ttctgtactt cactagtgct actactgtgg atgctgacaa catctaatgc cttgatgcac 480
accttgctca tggctagatt gtctttttgt gagaagaatg tgattctccg ctttttctgt 540
gacatttctg ctcttctgaa gttgtcttgc tcagacactt ttgttaatga gttgatgata 600
tttatcatgg gaggtatcat tattattatt ccattcctac tcatagttat gtcctatgta 660
aggattttct tctccattct caaggtccca tctacacagg gcatccacaa ggtcttttct 720
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ttatgcccat caagtaataa ttccactgta aaagagagtg ccatggctat gatgtacaca 840
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gccctaataa gagttatctg cagtaagaaa atctctctgt aatggaa 947

<210> 42
<211> 312
<212> PRT
<213> Homo sapiens

<400> 42

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Met Thr Gly Asn Asn Gln Thr Leu Ile Ser Lys Phe Leu Leu Leu Gly
 1               5                  10                  15

Leu Pro Ile Leu Ser Glu Tyr His Phe Leu Phe Tyr Ala Leu Phe Leu
            20                  25                  30

Ala Met Tyr Leu Thr Thr Ile Leu Gly Asn Leu Leu Ile Ile Ala Leu
        35                  40                  45

Val Arg Leu Asp Ser His Leu His Thr Pro Met Tyr Leu Phe Leu Ser
    50                  55                  60

Asn Leu Ser Phe Ser Asp Leu Cys Phe Ser Ser Val Thr Ile Pro Lys
65                  70                  75                  80

Leu Leu Gln Asn Met Gln Ser Gln Val Pro Ser Ile Ser Tyr Val Gly
                85                  90                  95

Cys Leu Thr Gln Leu Tyr Phe Phe Met Val Phe Gly Asp Met Glu Ser
            100                 105                 110

Phe Leu Leu Val Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe
        115                 120                 125

Pro Leu His Tyr Thr Ser Ile Met Ser Thr Lys Phe Cys Thr Ser Leu
    130                 135                 140

Val Leu Leu Leu Trp Met Leu Thr Thr Ser Asn Ala Leu Met His Thr
145                 150                 155                 160

Leu Leu Met Ala Arg Leu Ser Phe Cys Glu Lys Asn Val Ile Leu Arg
                165                 170                 175

Phe Phe Cys Asp Ile Ser Ala Leu Leu Lys Leu Ser Cys Ser Asp Thr
            180                 185                 190

Phe Val Asn Glu Leu Met Ile Phe Ile Met Gly Gly Ile Ile Ile Ile
        195                 200                 205

Ile Pro Phe Leu Leu Ile Val Met Ser Tyr Val Arg Ile Phe Phe Ser
    210                 215                 220

Ile Leu Lys Val Pro Ser Thr Gln Gly Ile His Lys Val Phe Ser Thr
225                 230                 235                 240

Cys Gly Ser His Leu Ser Val Val Ser Leu Phe Tyr Gly Thr Ile Ile
                245                 250                 255
```

Gly Leu Tyr Leu Cys Pro Ser Ser Asn Asn Ser Thr Val Lys Glu Ser
260 265 270

Ala Met Ala Met Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe
275 280 285

Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Arg Ala Leu Ile Arg Val
290 295 300

Ile Cys Ser Lys Lys Ile Ser Leu
305 310

<210> 43
<211> 980
<212> DNA
<213> Homo sapiens

<400> 43
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tctgatgtgt ggacactaca gattttacat tctgcatcct tctttatgtt gtatttggta 120
actctaatgg gaaacatcct cattgtgacc gtcaccacct gtgacagcag ccttcacatg 180
cccatgtact tcttcctcag gaatctgtct atcttggatg cctgctacat ttctgttaca 240
gtccctacct catgtgtcaa ttccctactg gacagcacca ccatttctaa ggcgggatgt 300
gtagctcagg tcttcctcgt ggtttttttt gtatatgtgg agcttctgtt tctcaccatt 360
atggctcatg accgctatgt ggctgtctgc cagccacttc actaccctgt gatcgtgaac 420
tctcgaatct gcatccagat gacactggcc tccctactca gtggtcttgt ctatgcaggc 480
atgcacactg gcagcacatt ccagctgccc ttctgtcggt ccaacgttat tcatcaattc 540
ttctgtgaca tcccctctct gctgaagctc tcttgctctg acaccttcag caatgaggtc 600
atgattgttg tctctgctct gggggtaggt ggcggctgtt tcatctttat catcaggtct 660
tacattcaca tcttttcgac cgtgctcggg tttccaagag gagcagacag aacaaaggcc 720
ttttccacct gcatccctca catcctggtg gtgtcagtct tcctcagttc atgctcttct 780
gtgtacctca ggccacctgc gatacctgca gccacccagg atctgatcct ttctggtttt 840
tattccataa tgcctccccc ctttaaccct attatttaca gtcttagaaa taagcaaata 900
aaggtggcca tcaagaaaat catgaagaga atttttttatt cagaaaatgt gtaagaaacc 960
cgagaggctc accctaggct 980

<210> 44
<211> 312
<212> PRT
<213> Homo sapiens

<400> 44
Met Pro Asn Ser Thr Thr Val Met Glu Phe Leu Leu Met Arg Phe Ser
1 5 10 15

Asp Val Trp Thr Leu Gln Ile Leu His Ser Ala Ser Phe Phe Met Leu

```
            20                  25                  30

Tyr Leu Val Thr Leu Met Gly Asn Ile Leu Ile Val Thr Val Thr Thr
         35                  40                  45

Cys Asp Ser Ser Leu His Met Pro Met Tyr Phe Phe Leu Arg Asn Leu
     50                  55                  60

Ser Ile Leu Asp Ala Cys Tyr Ile Ser Val Thr Val Pro Thr Ser Cys
 65                  70                  75                  80

Val Asn Ser Leu Leu Asp Ser Thr Thr Ile Ser Lys Ala Gly Cys Val
                85                  90                  95

Ala Gln Val Phe Leu Val Val Phe Phe Val Tyr Val Glu Leu Leu Phe
            100                 105                 110

Leu Thr Ile Met Ala His Asp Arg Tyr Val Ala Val Cys Gln Pro Leu
        115                 120                 125

His Tyr Pro Val Ile Val Asn Ser Arg Ile Cys Ile Gln Met Thr Leu
    130                 135                 140

Ala Ser Leu Leu Ser Gly Leu Val Tyr Ala Gly Met His Thr Gly Ser
145                 150                 155                 160

Thr Phe Gln Leu Pro Phe Cys Arg Ser Asn Val Ile His Gln Phe Phe
                165                 170                 175

Cys Asp Ile Pro Ser Leu Leu Lys Leu Ser Cys Ser Asp Thr Phe Ser
            180                 185                 190

Asn Glu Val Met Ile Val Val Ser Ala Leu Gly Val Gly Gly Gly Cys
        195                 200                 205

Phe Ile Phe Ile Ile Arg Ser Tyr Ile His Ile Phe Ser Thr Val Leu
    210                 215                 220

Gly Phe Pro Arg Gly Ala Asp Arg Thr Lys Ala Phe Ser Thr Cys Ile
225                 230                 235                 240

Pro His Ile Leu Val Val Ser Val Phe Leu Ser Ser Cys Ser Ser Val
                245                 250                 255

Tyr Leu Arg Pro Pro Ala Ile Pro Ala Ala Thr Gln Asp Leu Ile Leu
            260                 265                 270

Ser Gly Phe Tyr Ser Ile Met Pro Pro Leu Phe Asn Pro Ile Ile Tyr
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275 280 285

Ser Leu Arg Asn Lys Gln Ile Lys Val Ala Ile Lys Lys Ile Met Lys
290 295 300

Arg Ile Phe Tyr Ser Glu Asn Val
305 310

<210> 45
<211> 980
<212> DNA
<213> Homo sapiens

<400> 45
cttcatcatc caccgatgcc caattcaacc accgtgatgg aatttctcct catgaggttt 60
tctgatgtgt ggacactaca gattttacat tctgcatcct tctttatgtt gtatttggta 120
actctaatgg gaaacatcct cattgtgacc gtcaccacct gtgacagcag ccttcacatg 180
cccatgtact tcttcctcag gaatctgtct atcttggatg cctgctacat ttctgttaca 240
gtccctacct catgtgtcaa ttccctactg gacagcacca ccatttctaa ggcgggatgt 300
gtagctcagg tcttcctcgt ggtttttttt gtatatgtgg agcttctgtt tctcaccatt 360
atggctcatg accgctatgt ggctgtctgc cagccacttc actaccctgt gatcgtgaac 420
tctcgaatct gcatccagat gacactggcc tccctactca gtggtcttgt ctatgcaggc 480
atgcacactg gcagcacatt ccagctgccc ttctgtcggt ccaacgttat tcatcaattc 540
ttctgtgaca tcccctctct gctgaagctc tcttgctctg acaccttcag caatgaggtc 600
atgattgttg tctctgctct gggggtaggt ggcggctgtt tcatctttat catcaggtct 660
tacattcaca tcttttcgac cgtgctcggg tttccaagag gagcagacag aacaaaggcc 720
ttttccacct gcatccctca catcctggtg gtgtcagtct tcctcagttc atgctcttct 780
gtgtacctca ggccacctgc gatacctgca gccacccagg atctgatcct ttctggtttt 840
tattccataa tgcctccccc ctttaaccct attatttaca gtcttagaaa taagcaaata 900
aaggtggcca tcaagaaaat catgaagaga atttttttatt cagaaaatgt gtaagaaacc 960
cgagaggctc accctaggct 980

<210> 46
<211> 312
<212> PRT
<213> Homo sapiens

<400> 46
Met Pro Asn Ser Thr Thr Val Met Glu Phe Leu Leu Met Arg Phe Ser
1 5 10 15

Asp Val Trp Thr Leu Gln Ile Leu His Ser Ala Ser Phe Phe Met Leu
20 25 30

Tyr Leu Val Thr Leu Met Gly Asn Ile Leu Ile Val Thr Val Thr Thr
35 40 45

```
Cys Asp Ser Ser Leu His Met Pro Met Tyr Phe Phe Leu Arg Asn Leu
     50                  55                  60

Ser Ile Leu Asp Ala Cys Tyr Ile Ser Val Thr Val Pro Thr Ser Cys
 65                  70                  75                  80

Val Asn Ser Leu Leu Asp Ser Thr Thr Ile Ser Lys Ala Gly Cys Val
                 85                  90                  95

Ala Gln Val Phe Leu Val Val Phe Phe Val Tyr Val Glu Leu Leu Phe
            100                 105                 110

Leu Thr Ile Met Ala His Asp Arg Tyr Val Ala Val Cys Gln Pro Leu
        115                 120                 125

His Tyr Pro Val Ile Val Asn Ser Arg Ile Cys Ile Gln Met Thr Leu
    130                 135                 140

Ala Ser Leu Leu Ser Gly Leu Val Tyr Ala Gly Met His Thr Gly Ser
145                 150                 155                 160

Thr Phe Gln Leu Pro Phe Cys Arg Ser Asn Val Ile His Gln Phe Phe
                165                 170                 175

Cys Asp Ile Pro Ser Leu Leu Lys Leu Ser Cys Ser Asp Thr Phe Ser
            180                 185                 190

Asn Glu Val Met Ile Val Val Ser Ala Leu Gly Val Gly Gly Gly Cys
        195                 200                 205

Phe Ile Phe Ile Ile Arg Ser Tyr Ile His Ile Phe Ser Thr Val Leu
    210                 215                 220

Gly Phe Pro Arg Gly Ala Asp Arg Thr Lys Ala Phe Ser Thr Cys Ile
225                 230                 235                 240

Pro His Ile Leu Val Val Ser Val Phe Leu Ser Ser Cys Ser Ser Val
                245                 250                 255

Tyr Leu Arg Pro Pro Ala Ile Pro Ala Ala Thr Gln Asp Leu Ile Leu
            260                 265                 270

Ser Gly Phe Tyr Ser Ile Met Pro Pro Leu Phe Asn Pro Ile Ile Tyr
        275                 280                 285

Ser Leu Arg Asn Lys Gln Ile Lys Val Ala Ile Lys Lys Ile Met Lys
    290                 295                 300
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```
Arg Ile Phe Tyr Ser Glu Asn Val
305                 310


<210> 47
<211> 931
<212> DNA
<213> Homo sapiens

<400> 47
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accagagctc caaatgcctc tctttttcct gttcttggga atctacattg tatccatggt 120
ggggaacctg ggcttgactg ttctgattgt tttgaatcct cacctgcaca accccatgta 180
ctactttctc ttcaaccttt ccttcacaga tctctgctac tccactgtca taacccccag 240
aatgctggtg ggttttgtga agcagaacac catctctcat gctgagtgca tgactcaaca 300
ctttttcttt tgcttctttg ttattgatga atgctacatt ttgacagcag tggcctatga 360
cagatatgct gccatctgta agcctctact ttaccaagtt accatgtctc atcaggtttg 420
cctgctgatg acagttgggg tgtatgtgat gggatttttg gaagccattg cacacactgg 480
tagtatggta agcctgacct tctgtgatgg caacattatt aatcactatg catgtgacat 540
acttcctctc ctcaaactct cctgcacaag caccaccatc aatgagttgg tggttttcat 600
tgttgtgggt gtcaatgtca tagttcccac cctgacaatc tttatttctt acaccttgat 660
cctttccaac atcctcagca tccattctgc agaaggtagg tcaaaagcct tcagtacctg 720
tggctcccat gtgattgctg tttcactttt ctttggagct gcagccttca tgtatcttaa 780
gccttctagt gcatctgagg atgatgataa agtatctact atcttttata ccattgtggg 840
cccaatgctg aatcctttca tctacagtct aaggaataag gatgtctacc ttgcacttag 900
aaaaactttg atgaaaagga gttttaccta a                                 931


<210> 48
<211> 309
<212> PRT
<213> Homo sapiens

<400> 48
Met Val Leu Glu Asn Ser Ser Ser Val Lys Glu Phe Ile Leu Leu Gly
  1               5                  10                  15

Leu Thr Gln Gln Pro Glu Leu Gln Met Pro Leu Phe Phe Leu Phe Leu
             20                  25                  30

Gly Ile Tyr Ile Val Ser Met Val Gly Asn Leu Gly Leu Thr Val Leu
         35                  40                  45

Ile Val Leu Asn Pro His Leu His Asn Pro Met Tyr Tyr Phe Leu Phe
     50                  55                  60

Asn Leu Ser Phe Thr Asp Leu Cys Tyr Ser Thr Val Ile Thr Pro Arg
```

65 70 75 80

Met Leu Val Gly Phe Val Lys Gln Asn Thr Ile Ser His Ala Glu Cys
85 90 95

Met Thr Gln His Phe Phe Phe Cys Phe Phe Val Ile Asp Glu Cys Tyr
100 105 110

Ile Leu Thr Ala Val Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Lys Pro
115 120 125

Leu Leu Tyr Gln Val Thr Met Ser His Gln Val Cys Leu Leu Met Thr
130 135 140

Val Gly Val Tyr Val Met Gly Phe Leu Glu Ala Ile Ala His Thr Gly
145 150 155 160

Ser Met Val Ser Leu Thr Phe Cys Asp Gly Asn Ile Ile Asn His Tyr
165 170 175

Ala Cys Asp Ile Leu Pro Leu Leu Lys Leu Ser Cys Thr Ser Thr Thr
180 185 190

Ile Asn Glu Leu Val Val Phe Ile Val Val Gly Val Asn Val Ile Val
195 200 205

Pro Thr Leu Thr Ile Phe Ile Ser Tyr Thr Leu Ile Leu Ser Asn Ile
210 215 220

Leu Ser Ile His Ser Ala Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys
225 230 235 240

Gly Ser His Val Ile Ala Val Ser Leu Phe Phe Gly Ala Ala Ala Phe
245 250 255

Met Tyr Leu Lys Pro Ser Ser Ala Ser Glu Asp Asp Asp Lys Val Ser
260 265 270

Thr Ile Phe Tyr Thr Ile Val Gly Pro Met Leu Asn Pro Phe Ile Tyr
275 280 285

Ser Leu Arg Asn Lys Asp Val Tyr Leu Ala Leu Arg Lys Thr Leu Met
290 295 300

Lys Arg Ser Phe Thr
305

<210> 49
<211> 941
<212> DNA
<213> Homo sapiens

<400> 49
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cccagagcag cagcaaatgt tctatgccct gttcctggcc atgtacctca ccactgtcct 120
ggggaacctc atcatcatca tcctcattcg actggactcc catctccaca cacccatgta 180
cttgtttctc agcaacttgt ccttctctga tctctgcttt tcctctgtca caatgcccaa 240
attgctgcag aacattcaga gccaggaccc atccatctcc tatgccgggt gcctgacaca 300
aatgtacttt ttcatggttt ttgcaaacac agagaatgtt cttcttgtgg tcatggccta 360
tgaccgctat gtggccatct gcttccctct tcattacacc agcatcatga gccctaagct 420
ctgtgtgtct ctggtggtgc tcacctgggt atttaccgtt ctgtattcca tgttacacac 480
cctactcttg gcaagattgt cattctgtga ggacaatgta atcacccact ttttctgtga 540
catatctgcc ctgctcaagt tggcctgctc tgacacttat attaatgaac taatgatatt 600
tatcttggga acacttgata ctgtggtgcc attcttactc attgttgttt cctatgtaca 660
aattgtctgc tccattctaa agttttcaac taaacagggc atagccaagg tcttttccac 720
ctgtggctcc cacctgtctg tggtctcact gttctatggg acaattattg gtgtctactt 780
atgcccatca gctaataact ctactgtaaa ggagattgtc atggctctga tgtacacagt 840
ggtgactccc atgctgaatc cattcatcta cagtctgaga aacagagata taaaagaggc 900
cctgatcaga gtcctatgta agaagcaaat ccccttataa t 941

<210> 50
<211> 312
<212> PRT
<213> Homo sapiens

<400> 50
Met Ile Ile Asn Asn Gln Thr Ala Ile Pro Gln Phe Ile Leu Leu Gly
1 5 10 15

Leu Pro Ile Leu Pro Glu Gln Gln Gln Met Phe Tyr Ala Leu Phe Leu
20 25 30

Ala Met Tyr Leu Thr Thr Val Leu Gly Asn Leu Ile Ile Ile Ile Leu
35 40 45

Ile Arg Leu Asp Ser His Leu His Thr Pro Met Tyr Leu Phe Leu Ser
50 55 60

Asn Leu Ser Phe Ser Asp Leu Cys Phe Ser Ser Val Thr Met Pro Lys
65 70 75 80

Leu Leu Gln Asn Ile Gln Ser Gln Asp Pro Ser Ile Ser Tyr Ala Gly
85 90 95

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Cys Leu Thr Gln Met Tyr Phe Phe Met Val Phe Ala Asn Thr Glu Asn
            100                 105                 110

Val Leu Leu Val Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe
        115                 120                 125

Pro Leu His Tyr Thr Ser Ile Met Ser Pro Lys Leu Cys Val Ser Leu
    130                 135                 140

Val Val Leu Thr Trp Val Phe Thr Val Leu Tyr Ser Met Leu His Thr
145                 150                 155                 160

Leu Leu Leu Ala Arg Leu Ser Phe Cys Glu Asp Asn Val Ile Thr His
                165                 170                 175

Phe Phe Cys Asp Ile Ser Ala Leu Leu Lys Leu Ala Cys Ser Asp Thr
            180                 185                 190

Tyr Ile Asn Glu Leu Met Ile Phe Ile Leu Gly Thr Leu Asp Thr Val
        195                 200                 205

Val Pro Phe Leu Leu Ile Val Val Ser Tyr Val Gln Ile Val Cys Ser
    210                 215                 220

Ile Leu Lys Phe Ser Thr Lys Gln Gly Ile Ala Lys Val Phe Ser Thr
225                 230                 235                 240

Cys Gly Ser His Leu Ser Val Val Ser Leu Phe Tyr Gly Thr Ile Ile
                245                 250                 255

Gly Val Tyr Leu Cys Pro Ser Ala Asn Asn Ser Thr Val Lys Glu Ile
            260                 265                 270

Val Met Ala Leu Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Arg Asp Ile Lys Glu Ala Leu Ile Arg Val
    290                 295                 300

Leu Cys Lys Lys Gln Ile Pro Leu
305                 310
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<210> 51
<211> 972
<212> DNA
<213> Homo sapiens

<400> 51
acatgggcaa ggaaaactgc accactgtgg ctgagttcat tctccttgga ctatcagatg 60
tccctgagtt gagagtctgc ctcttcctgc tgttccttct catctatgga gtcacgttgt 120
tagccaatct gggcatgact gcactgattc aggtcagctc tcggctccac acccccgtgt 180
acttttttcct cagccacttg tcctttgtag atttctgcta ctcctcaata attgtgccaa 240
agatgttggc taatatcttt aacaaggaca aagccatctc cttcctaggg tgcatggtgc 300
aattctactt gttttgcaca tgtggagtca ctgaggtctt cctgctggcc gtgatggcct 360
atgaccgctt tgtggccatc tgtaaccccc tgctgtacat ggtgaccatg tctcaaaagc 420
tgcgtgtgga gctgacctct tgctgctact tctgtgggac ggtgtgttct ctgattcact 480
cgtccttagc tcttaggatc ctcttctata gatctaatgt gattaaccac ttcttctgtg 540
atctaccccc tctcctaagt cttgcttgct ctgatgtcac tgtgaatgag acactgctgt 600
tcctggtggc cactttgaat gagagtgtta ccatcatgat catcctcacc tcctacctgc 660
taattctcac cactatcctg aagatacact ctgcagagag caggcacaaa gctttctcca 720
cctgtgcctc ccacctcaca gccatcactg tctcccatgg aacaatcctt tacatttatt 780
gcaggccgag ttcaggcaac agtggagatg ttgacaaagt ggccaccgtg ttctacacag 840
ttgtgattcc catgctgaac cccctgatct acagcctgag aaataaggat gtgaacaaag 900
ctctcagaaa agtgatgggc tccaaaattc actcctaggg aagattttat tcacagaatt 960
caggatcccc aa 972

<210> 52
<211> 311
<212> PRT
<213> Homo sapiens

<400> 52
Met Gly Lys Glu Asn Cys Thr Thr Val Ala Glu Phe Ile Leu Leu Gly
1 5 10 15

Leu Ser Asp Val Pro Glu Leu Arg Val Cys Leu Phe Leu Leu Phe Leu
20 25 30

Leu Ile Tyr Gly Val Thr Leu Leu Ala Asn Leu Gly Met Thr Ala Leu
35 40 45

Ile Gln Val Ser Ser Arg Leu His Thr Pro Val Tyr Phe Phe Leu Ser
50 55 60

His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Val Pro Lys
65 70 75 80

Met Leu Ala Asn Ile Phe Asn Lys Asp Lys Ala Ile Ser Phe Leu Gly
85 90 95

Cys Met Val Gln Phe Tyr Leu Phe Cys Thr Cys Gly Val Thr Glu Val
100 105 110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn

```
        115                 120                 125

Pro Leu Leu Tyr Met Val Thr Met Ser Gln Lys Leu Arg Val Glu Leu
    130                 135                 140

Thr Ser Cys Cys Tyr Phe Cys Gly Thr Val Cys Ser Leu Ile His Ser
145                 150                 155                 160

Ser Leu Ala Leu Arg Ile Leu Phe Tyr Arg Ser Asn Val Ile Asn His
                165                 170                 175

Phe Phe Cys Asp Leu Pro Pro Leu Leu Ser Leu Ala Cys Ser Asp Val
            180                 185                 190

Thr Val Asn Glu Thr Leu Leu Phe Leu Val Ala Thr Leu Asn Glu Ser
        195                 200                 205

Val Thr Ile Met Ile Ile Leu Thr Ser Tyr Leu Leu Ile Leu Thr Thr
    210                 215                 220

Ile Leu Lys Ile His Ser Ala Glu Ser Arg His Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Ala Ser His Leu Thr Ala Ile Thr Val Ser His Gly Thr Ile Leu
                245                 250                 255

Tyr Ile Tyr Cys Arg Pro Ser Ser Gly Asn Ser Gly Asp Val Asp Lys
            260                 265                 270

Val Ala Thr Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Asn Lys Ala Leu Arg Lys Val
    290                 295                 300

Met Gly Ser Lys Ile His Ser
305                 310
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<210> 53
<211> 947
<212> DNA
<213> Homo sapiens

<400> 53
atgccatgaa cagatcagca gcacatgtaa ctgaatttgt tctcttggga tttcctggtt 60
cctggaagat acagattttc ctcttcgtgt tgtttttggt gttttatgtc ttgacattgt 120
tgggaaatgg agccatcatc tgtgcagtaa gatgtgactc acgtctacat acccccatgt 180

acttcctcct gggaaatttt gccttccttg aaatctggta tgtttcctcc actattccta 240
acatactagc caacattctg tctaagacca aggccatctc attttcaggg tgcttcctgc 300
agttctattt cttcttttca ctaggtacaa ctgaatgtct cttcctggca gtaatggctt 360
atgataggta cctggccatt tgccgcccat tacattaccc taccatcatg actaggaggc 420
tgtgttgcat tctggtatcc tcatgctggc tcattggatt tcttgggtac ccaatcccta 480
tcttctccat ttcccagctt cccttctgtg gttctaatat cattgatcac ttcctctgtg 540
acatggaccc attgatggct ttgtcctgtg ccccagctcc tattactgaa tttatttttt 600
atgcccaaag ttcctttgtc ctctttttca ctattgcata cattcttcgg tcctatattt 660
tgttgctcag ggctgttttt caggttcctt ctgcagctgg ccgacgaaag gccttctcta 720
cctgtggttc ccatttagtt gtggtatcac tcttctatgg tacagtaatg gtaatgtatg 780
tgagtcctac atatggcatt ccaattttga tgcagaagat ccttacactt gtatactctg 840
taatgactcc tctctttaat cctctgattt atagccttcg taacaaggac atgaaacttg 900
ctctgagaaa tgttctgtta ggaatgagaa ttgtcaaaaa tatgtaa 947

<210> 54
<211> 313
<212> PRT
<213> Homo sapiens

<400> 54

Met	Asn	Arg	Ser	Ala	Ala	His	Val	Thr	Glu	Phe	Val	Leu	Leu	Gly	Phe
1				5				10					15		
Pro	Gly	Ser	Trp	Lys	Ile	Gln	Ile	Phe	Leu	Phe	Val	Leu	Phe	Leu	Val
			20					25					30		
Phe	Tyr	Val	Leu	Thr	Leu	Leu	Gly	Asn	Gly	Ala	Ile	Ile	Cys	Ala	Val
		35					40					45			
Arg	Cys	Asp	Ser	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Leu	Leu	Gly	Asn
	50					55					60				
Phe	Ala	Phe	Leu	Glu	Ile	Trp	Tyr	Val	Ser	Ser	Thr	Ile	Pro	Asn	Ile
65					70					75					80
Leu	Ala	Asn	Ile	Leu	Ser	Lys	Thr	Lys	Ala	Ile	Ser	Phe	Ser	Gly	Cys
				85					90					95	
Phe	Leu	Gln	Phe	Tyr	Phe	Phe	Phe	Ser	Leu	Gly	Thr	Thr	Glu	Cys	Leu
			100					105					110		
Phe	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Leu	Ala	Ile	Cys	Arg	Pro
		115					120					125			
Leu	His	Tyr	Pro	Thr	Ile	Met	Thr	Arg	Arg	Leu	Cys	Cys	Ile	Leu	Val
	130					135					140				

```
Ser Ser Cys Trp Leu Ile Gly Phe Leu Gly Tyr Pro Ile Pro Ile Phe
145                 150                 155                 160

Ser Ile Ser Gln Leu Pro Phe Cys Gly Ser Asn Ile Ile Asp His Phe
                165                 170                 175

Leu Cys Asp Met Asp Pro Leu Met Ala Leu Ser Cys Ala Pro Ala Pro
            180                 185                 190

Ile Thr Glu Phe Ile Phe Tyr Ala Gln Ser Ser Phe Val Leu Phe Phe
        195                 200                 205

Thr Ile Ala Tyr Ile Leu Arg Ser Tyr Ile Leu Leu Leu Arg Ala Val
    210                 215                 220

Phe Gln Val Pro Ser Ala Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys
225                 230                 235                 240

Gly Ser His Leu Val Val Val Ser Leu Phe Tyr Gly Thr Val Met Val
                245                 250                 255

Met Tyr Val Ser Pro Thr Tyr Gly Ile Pro Ile Leu Met Gln Lys Ile
            260                 265                 270

Leu Thr Leu Val Tyr Ser Val Met Thr Pro Leu Phe Asn Pro Leu Ile
        275                 280                 285

Tyr Ser Leu Arg Asn Lys Asp Met Lys Leu Ala Leu Arg Asn Val Leu
    290                 295                 300

Leu Gly Met Arg Ile Val Lys Asn Met
305                 310
```

<210> 55
<211> 941
<212> DNA
<213> Homo sapiens

<400> 55
gacatggaac aggataatac aacattgctg acagagtttg ttctcacagg acttacatat 60
cagccagagt ggaaaatgcc cctgttcttg gtgttcttgg tgatctatct catcactatt 120
gtgtggaacc ttggtctgat tgctcttatc tggaatgacc cacaacttca catccccatg 180
tacttttttc ttgggagttt agcctttgtt gatgcttgga tatcttccac agtaactccc 240
aaaatgttgg ttaatttctt ggccaaaaac aggatgatat ctctgtctga atgcatgatt 300
caatttttt cctttgcatt tggtggaact acagaatgtt ttctcttggc aacaatggca 360
tatgatcgct atgtagccat atgcaaacct ttactatatc cagtgattat gaacaattca 420
ctatgcatac ggctgttagc cttctcattt ttaggtggct tcctccatgc cttaattcat 480

gaagtcctta tattcagatt aaccttctgc aattctaaca taatacatca tttttactgt 540
gatattatac cactgtttat gatttcctgt actgaccctt ctattaattt tctaatggtt 600
tttatttttgt ctggctcaat tcaggtattc accattgtga cagttcttaa ttcttacaca 660
tttgctcttt tcacaatcct aaaaaagaag tctgttagag gcgtaaggaa agccttttcc 720
acctgtggag cccatctctt atctgtctct ttatattatg gcccacttat cttcatgtat 780
ttgcgccctg catctccaca agcagatgac caagatatga tagactctgt cttttataca 840
atcataattc ctttgctaaa tcccattatc tacagtctga gaaataaaca agtaatagat 900
tcattcacaa aaatggtaaa aagaaatgtt tagatttcat a 941

<210> 56
<211> 309
<212> PRT
<213> Homo sapiens

<400> 56
Met Glu Gln Asp Asn Thr Thr Leu Leu Thr Glu Phe Val Leu Thr Gly
1 5 10 15

Leu Thr Tyr Gln Pro Glu Trp Lys Met Pro Leu Phe Leu Val Phe Leu
20 25 30

Val Ile Tyr Leu Ile Thr Ile Val Trp Asn Leu Gly Leu Ile Ala Leu
35 40 45

Ile Trp Asn Asp Pro Gln Leu His Ile Pro Met Tyr Phe Phe Leu Gly
50 55 60

Ser Leu Ala Phe Val Asp Ala Trp Ile Ser Ser Thr Val Thr Pro Lys
65 70 75 80

Met Leu Val Asn Phe Leu Ala Lys Asn Arg Met Ile Ser Leu Ser Glu
85 90 95

Cys Met Ile Gln Phe Phe Ser Phe Ala Phe Gly Gly Thr Thr Glu Cys
100 105 110

Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys
115 120 125

Pro Leu Leu Tyr Pro Val Ile Met Asn Asn Ser Leu Cys Ile Arg Leu
130 135 140

Leu Ala Phe Ser Phe Leu Gly Gly Phe Leu His Ala Leu Ile His Glu
145 150 155 160

Val Leu Ile Phe Arg Leu Thr Phe Cys Asn Ser Asn Ile Ile His His
165 170 175

```
Phe Tyr Cys Asp Ile Ile Pro Leu Phe Met Ile Ser Cys Thr Asp Pro
            180                 185                 190

Ser Ile Asn Phe Leu Met Val Phe Ile Leu Ser Gly Ser Ile Gln Val
        195                 200                 205

Phe Thr Ile Val Thr Val Leu Asn Ser Tyr Thr Phe Ala Leu Phe Thr
    210                 215                 220

Ile Leu Lys Lys Lys Ser Val Arg Gly Val Arg Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Gly Ala His Leu Leu Ser Val Ser Leu Tyr Tyr Gly Pro Leu Ile
                245                 250                 255

Phe Met Tyr Leu Arg Pro Ala Ser Pro Gln Ala Asp Asp Gln Asp Met
            260                 265                 270

Ile Asp Ser Val Phe Tyr Thr Ile Ile Ile Pro Leu Leu Asn Pro Ile
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Gln Val Ile Asp Ser Phe Thr Lys Met
    290                 295                 300

Val Lys Arg Asn Val
305
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<210> 57
<211> 943
<212> DNA
<213> Homo sapiens

<400> 57
aatgggtttt gaaaatggct cttcagtgac tgaattcatt ctggtgggat taaccaagga 60
gtccgatctc cagtgccccc tcttcatcct gtttctaatg atgtatgtgg tcactgtgct 120
gggaaatcag ggtttgatta gcttaattgg actgaactct catctccaca ctccaatgta 180
ctttttcctc tttaacttgt cctttgttga cctctggtac tcttctgttt tcacacccaa 240
aatgctggag agctttatat cagagaagaa tactatttcc tacagaggat gcatggcaca 300
gcttttcttt ttctgttttt tctccatctc tgagtgttac attttgacct caatggccta 360
tgatcgctat gtggccattt gtaacccact cttgtataat attgtcatgt ctcctaaaca 420
atgtttgatc cttatgttta gttcatacat gatggcattt tctggtgcca tggctcacac 480
gggatgcatg ctgagactga ccttctgtga tgctaacacc atcaatcact acttctgtga 540
catcctccct ttgcttcagc tctcctgcac cagcacctat gtcaatgaac tggaggtatt 600
tgttgttgtg ggcatcaaca tcattgtgcc cactatcacc atctttatct cttatggttt 660
tatcatcgca agtatttttc gtatcagctc caaggaggac aggtccaaag ccttcagcac 720
ctgcagctcc cacataattg cagtttctct gttctttgga tcaggtgcat ttatgtatct 780

caaaccatct tctgctgagt caatgaatga aggcaaaatc tcctctatct tttataccaa 840
tacagttcct ctgctgaatc ccttaatcta cagcttgagg aacaaagatg ttaaagatgc 900
cttgataaag accctgagta agagaaagcg ttaaaatgaa cga 943

<210> 58
<211> 310
<212> PRT
<213> Homo sapiens

<400> 58
Met Gly Phe Glu Asn Gly Ser Ser Val Thr Glu Phe Ile Leu Val Gly
1 5 10 15

Leu Thr Lys Glu Ser Asp Leu Gln Cys Pro Leu Phe Ile Leu Phe Leu
20 25 30

Met Met Tyr Val Val Thr Val Leu Gly Asn Gln Gly Leu Ile Ser Leu
35 40 45

Ile Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe
50 55 60

Asn Leu Ser Phe Val Asp Leu Trp Tyr Ser Ser Val Phe Thr Pro Lys
65 70 75 80

Met Leu Glu Ser Phe Ile Ser Glu Lys Asn Thr Ile Ser Tyr Arg Gly
85 90 95

Cys Met Ala Gln Leu Phe Phe Phe Cys Phe Phe Ser Ile Ser Glu Cys
100 105 110

Tyr Ile Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
115 120 125

Pro Leu Leu Tyr Asn Ile Val Met Ser Pro Lys Gln Cys Leu Ile Leu
130 135 140

Met Phe Ser Ser Tyr Met Met Ala Phe Ser Gly Ala Met Ala His Thr
145 150 155 160

Gly Cys Met Leu Arg Leu Thr Phe Cys Asp Ala Asn Thr Ile Asn His
165 170 175

Tyr Phe Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr
180 185 190

Tyr Val Asn Glu Leu Glu Val Phe Val Val Val Gly Ile Asn Ile Ile

```
        195                 200                 205

Val Pro Thr Ile Thr Ile Phe Ile Ser Tyr Gly Phe Ile Ile Ala Ser
    210                 215                 220

Ile Phe Arg Ile Ser Ser Lys Glu Asp Arg Ser Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Ser Ser His Ile Ile Ala Val Ser Leu Phe Phe Gly Ser Gly Ala
                245                 250                 255

Phe Met Tyr Leu Lys Pro Ser Ser Ala Glu Ser Met Asn Glu Gly Lys
            260                 265                 270

Ile Ser Ser Ile Phe Tyr Thr Asn Thr Val Pro Leu Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Leu Ile Lys Thr
    290                 295                 300

Leu Ser Lys Arg Lys Arg
305                 310
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<210> 59
<211> 952
<212> DNA
<213> Homo sapiens

<400> 59

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aaaaaaaaat ggcctctgca aatgtgtctt tggtgactga attcattctg gtaggtttaa 60
caaaccagcc tgatcttcaa atacctctgt tctttgtgtt tctaataatg tatattgtta 120
ctgcattagg aaatttgtgt ttgataattc ttattgtact aaattcacac cttcacaccc 180
ctatgtactt tttcctcttt aacttgtcct tcatagacct ctgctactct actgtgttca 240
ctccaaaaat gctgatgaac tttatactga gcaagaatgc aatttcttac atgggatgtt 300
taacccagct atatttcttc tgctttttg tcatttctga gtgttatgtg ttgacttcaa 360
tggcttatga tcgctatgtg gccatctgta atccactctt gtacacggtt gccatgtccc 420
ctaaattgtg tttgaacctt atgcttggta catatgcaat ggcattttct ggtgccatgg 480
ctcacacggg atgcatgctg agactgacct tctgtgatgc taacaccatc aaccactact 540
tctgtgacat cctccctgtg atgcagctct cctgcaccag cacctatgtc aatgagcttg 600
tagttttcat tgttgtgggc atcaatatca ttgtgccaag catcactatc ttcatctctt 660
atggcttcat cctctccagc atttttcaca tcaagtccaa tgaaggcagg tccaaggcct 720
tcagcacctg cagttcccat ataattgcag tttgtctctt ctttggatca ggtgcattta 780
tgtatctcaa accatcttct tcttcatcta tggatcaagg gaaaacctct tctgtgtttt 840
atacaaatgt ggttcccatg atgaatccct taatctacag tttaaggaac aaagatgtca 900
agatagccct gagaaaaacc ctgagcagat ggaaattttg aaaggagaca ac         952
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<210> 60
<211> 310
<212> PRT
<213> Homo sapiens

<400> 60
Met Ala Ser Ala Asn Val Ser Leu Val Thr Glu Phe Ile Leu Val Gly
1 5 10 15

Leu Thr Asn Gln Pro Asp Leu Gln Ile Pro Leu Phe Phe Val Phe Leu
20 25 30

Ile Met Tyr Ile Val Thr Ala Leu Gly Asn Leu Cys Leu Ile Ile Leu
35 40 45

Ile Val Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe
50 55 60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Thr Val Phe Thr Pro Lys
65 70 75 80

Met Leu Met Asn Phe Ile Leu Ser Lys Asn Ala Ile Ser Tyr Met Gly
85 90 95

Cys Leu Thr Gln Leu Tyr Phe Phe Cys Phe Phe Val Ile Ser Glu Cys
100 105 110

Tyr Val Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
115 120 125

Pro Leu Leu Tyr Thr Val Ala Met Ser Pro Lys Leu Cys Leu Asn Leu
130 135 140

Met Leu Gly Thr Tyr Ala Met Ala Phe Ser Gly Ala Met Ala His Thr
145 150 155 160

Gly Cys Met Leu Arg Leu Thr Phe Cys Asp Ala Asn Thr Ile Asn His
165 170 175

Tyr Phe Cys Asp Ile Leu Pro Val Met Gln Leu Ser Cys Thr Ser Thr
180 185 190

Tyr Val Asn Glu Leu Val Val Phe Ile Val Val Gly Ile Asn Ile Ile
195 200 205

Val Pro Ser Ile Thr Ile Phe Ile Ser Tyr Gly Phe Ile Leu Ser Ser
210 215 220

```
Ile Phe His Ile Lys Ser Asn Glu Gly Arg Ser Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Ser Ser His Ile Ile Ala Val Cys Leu Phe Phe Gly Ser Gly Ala
                245                 250                 255

Phe Met Tyr Leu Lys Pro Ser Ser Ser Ser Ser Met Asp Gln Gly Lys
            260                 265                 270

Thr Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Met Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ile Ala Leu Arg Lys Thr
    290                 295                 300

Leu Ser Arg Trp Lys Phe
305                 310
```

<210> 61
<211> 943
<212> DNA
<213> Homo sapiens

<400> 61
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aatggccctg gaaaatgctt ccttggtcac tgagttcatc ttgatggggt taacaaacag 60
acctgaccta caaatacccc tgttcctact ctttctggtg atgtacgtga tagctacatt 120
ggggaattta gctttgatca tgctgattat tctgaattct caccttcaca ctcctatgta 180
ttttttcctc cttaacttgt cctgcataga ccttttttat tgttcagtca ttacacctaa 240
aatgctgatg aactttgtac taaagaaaaa tgttatttct tatgagggat gcatggccca 300
gttctatttc tttgccttct ttgcaatttc tgaatgttat gtgctgacaa caatggccta 360
tgatcgctat gtggccattt gcaatccact cttgtacaac attgtaatgt ctcctaagtt 420
gtgttcttat cttatgatgg gtacatattt gatggggttt tctggtgcca tgatccatac 480
tggatgtatc ctaagactga cattctgtga taaaaacacc atcaatcact atttctgtga 540
catcctccct ttgctccaga tctcctgcac cagtacctat gttaatgaga tagagttgtt 600
cattgtagca ggaaaggata ttattgttcc cactgtaatc atctttacct cttacggctt 660
tatcctctcc agcatcctca aaataagctc cacagcagga atgtccaaag ccttcagcac 720
atgtagctct cacataatcg ctctttgtct gttctttgga tcatgtacat ttatgtatct 780
aaaaccctcc tcagttgagt ctatggacca ggggaaaata tcttctgtct tttataacat 840
tgttgtcccc ctgatgaatc cattaatcta tagccttagg aacaaagatg ttaaaattgc 900
tataaaaaaa actataacca aaggaaagtt ttaatcagaa ttt                   943
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<210> 62
<211> 310
<212> PRT
<213> Homo sapiens

<400> 62

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Met Ala Leu Glu Asn Ala Ser Leu Val Thr Glu Phe Ile Leu Met Gly
  1               5                  10                  15

Leu Thr Asn Arg Pro Asp Leu Gln Ile Pro Leu Phe Leu Leu Phe Leu
             20                  25                  30

Val Met Tyr Val Ile Ala Thr Leu Gly Asn Leu Ala Leu Ile Met Leu
         35                  40                  45

Ile Ile Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Leu
     50                  55                  60

Asn Leu Ser Cys Ile Asp Leu Phe Tyr Cys Ser Val Ile Thr Pro Lys
 65                  70                  75                  80

Met Leu Met Asn Phe Val Leu Lys Lys Asn Val Ile Ser Tyr Glu Gly
                 85                  90                  95

Cys Met Ala Gln Phe Tyr Phe Phe Ala Phe Phe Ala Ile Ser Glu Cys
            100                 105                 110

Tyr Val Leu Thr Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
        115                 120                 125

Pro Leu Leu Tyr Asn Ile Val Met Ser Pro Lys Leu Cys Ser Tyr Leu
    130                 135                 140

Met Met Gly Thr Tyr Leu Met Gly Phe Ser Gly Ala Met Ile His Thr
145                 150                 155                 160

Gly Cys Ile Leu Arg Leu Thr Phe Cys Asp Lys Asn Thr Ile Asn His
                165                 170                 175

Tyr Phe Cys Asp Ile Leu Pro Leu Leu Gln Ile Ser Cys Thr Ser Thr
            180                 185                 190

Tyr Val Asn Glu Ile Glu Leu Phe Ile Val Ala Gly Lys Asp Ile Ile
        195                 200                 205

Val Pro Thr Val Ile Ile Phe Thr Ser Tyr Gly Phe Ile Leu Ser Ser
    210                 215                 220

Ile Leu Lys Ile Ser Ser Thr Ala Gly Met Ser Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Ser Ser His Ile Ile Ala Leu Cys Leu Phe Phe Gly Ser Cys Thr
                245                 250                 255
```

```
Phe Met Tyr Leu Lys Pro Ser Ser Val Glu Ser Met Asp Gln Gly Lys
            260                 265                 270

Ile Ser Ser Val Phe Tyr Asn Ile Val Val Pro Leu Met Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ile Ala Ile Lys Lys Thr
    290                 295                 300

Ile Thr Lys Gly Lys Phe
305                 310
```

<210> 63
<211> 953
<212> DNA
<213> Homo sapiens

<400> 63

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aatggtcgtg acaaatggct ctttggtaac agaattcatt cttttggggt taacagataa 60
ccctgacctc caaatacccc tctttttagt tttcctagta atgtatatga taactgcctt 120
tgggaatttg accttgatcc tcctaactgt gctgaactct caccttcata ccccctatgta 180
ctttttcctc tttaacttgt ccttcataga cctctgctat tcttctgttg ttacacccaa 240
attgctgatg aactttgtac taaagaagaa tattattggt tttgcgggat gtatgactca 300
actctacttc ttctgttttt ttgttatctc tgaatgttat gtcctgacag caatggccta 360
tgatcgctat gtggctatct gcaatccact catgtataat gttaccatgt cccctaaagt 420
ctgttcctat cttatgcttg gttcatattt gatgggattt tctgatgcca tgatccatac 480
tggatgcatc ctgagactga ctttctgtga tgggaacacc atcaatcact acttctgtga 540
tcttctgcct ttgatgcagc tttcctgcac aagcacctat ataaatgagg tagagatttt 600
cattgtaggg ggaaaagata tcactgtgcc cagtattgtc atcatcattt cttatggctt 660
catcctctct aatattctcc aaataaaatc cactgggggc agatcaaaag ccttcaacac 720
ctgcagttct catataattg ctgtttctct gttttttggg tcatgtgcat ttatgtactt 780
aaaaccccccc tcagctggat ctttgaatga ggggaaagta tcttctgtct tctataccat 840
tgtggtcccc atgatgaacc ctttaatcta cagtttgaga aataaagatg ttaaacttgc 900
cctgagaaaa actttgagca ggagaaagtt ttaatgataa atttattatc ttt        953
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<210> 64
<211> 310
<212> PRT
<213> Homo sapiens

<400> 64

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Met Val Val Thr Asn Gly Ser Leu Val Thr Glu Phe Ile Leu Leu Gly
  1               5                  10                  15

Leu Thr Asp Asn Pro Asp Leu Gln Ile Pro Leu Phe Leu Val Phe Leu
```

```
            20                  25                  30

Val Met Tyr Met Ile Thr Ala Phe Gly Asn Leu Thr Leu Ile Leu Leu
         35                  40                  45

Thr Val Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe
     50                  55                  60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Val Thr Pro Lys
 65                  70                  75                  80

Leu Leu Met Asn Phe Val Leu Lys Lys Asn Ile Ile Gly Phe Ala Gly
                 85                  90                  95

Cys Met Thr Gln Leu Tyr Phe Phe Cys Phe Phe Val Ile Ser Glu Cys
            100                 105                 110

Tyr Val Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
        115                 120                 125

Pro Leu Met Tyr Asn Val Thr Met Ser Pro Lys Val Cys Ser Tyr Leu
    130                 135                 140

Met Leu Gly Ser Tyr Leu Met Gly Phe Ser Asp Ala Met Ile His Thr
145                 150                 155                 160

Gly Cys Ile Leu Arg Leu Thr Phe Cys Asp Gly Asn Thr Ile Asn His
                165                 170                 175

Tyr Phe Cys Asp Leu Leu Pro Leu Met Gln Leu Ser Cys Thr Ser Thr
            180                 185                 190

Tyr Ile Asn Glu Val Glu Ile Phe Ile Val Gly Gly Lys Asp Ile Thr
        195                 200                 205

Val Pro Ser Ile Val Ile Ile Ile Ser Tyr Gly Phe Ile Leu Ser Asn
    210                 215                 220

Ile Leu Gln Ile Lys Ser Thr Gly Gly Arg Ser Lys Ala Phe Asn Thr
225                 230                 235                 240

Cys Ser Ser His Ile Ile Ala Val Ser Leu Phe Phe Gly Ser Cys Ala
                245                 250                 255

Phe Met Tyr Leu Lys Pro Pro Ser Ala Gly Ser Leu Asn Glu Gly Lys
            260                 265                 270

Val Ser Ser Val Phe Tyr Thr Ile Val Val Pro Met Met Asn Pro Leu
```

275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Leu Ala Leu Arg Lys Thr
290 295 300

Leu Ser Arg Arg Lys Phe
305 310

<210> 65
<211> 954
<212> DNA
<213> Homo sapiens

<400> 65
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caacctgagc tccagttgcc cctgtttttc ctgttcttgc tgaaccatac tgttatagtg 120
gtgggtaatt tgagcttaat gagtcttatt atcttaaact ccaatctcca cactcctatg 180
tacttttttcc ttttcaatct gtccttcatt gatttttgtt attcatttgt ttttacaccc 240
aaaatgctga tgagttttgt ttcagagaag aatatcatcc cttttacagg atgcatgact 300
cagctgtttt tcttctgctt ttttgcccat tctgagagtt gggtgctgac agtcatggcc 360
tatgatcgct atgtggccat ttgtaagcct ttactgtaca aggctatcat gttacctagg 420
atctgttgtc tgctgatgtt tgtgtcatat ttgatagggt ttgctagtgc catggttctg 480
gcaggtttaa tgattaggct caacttttgt aataacaaca tcatcaatca ctacatgtgt 540
gacatcttcc ctgtccttcg gatctcctgc agtaacacct atctcaatga gcttgtgagt 600
actgctgtgg tgggtacagc tatcatttta tgtagtctga ttatcttcat ctcatatgct 660
atgatccttt tcaatatcgt tcatatgtca tcaggtaagg gttggtccaa agccctgggc 720
acttgtgggt cccacatcat aactgttagt ttcttctatg gatctgggct ccttgcttat 780
gtcaagccat catctgctga gactgtaggt caaggaaaat ttttctcagt attttataca 840
tttttggtgc ccatgctgaa tccccttatt tacagcctca ggaataagga tgtcaaagtt 900
gctgtgaaga aaaccataaa gagaatcaca agttaattga aacaatttga gctg 954

<210> 66
<211> 310
<212> PRT
<213> Homo sapiens

<400> 66
Met Ala Thr Lys Asn Asp Ser Ser Val Ser Glu Phe Ile Leu Met Gly
1 5 10 15

Leu Thr Asp Gln Pro Glu Leu Gln Leu Pro Leu Phe Phe Leu Phe Leu
20 25 30

Leu Asn His Thr Val Ile Val Val Gly Asn Leu Ser Leu Met Ser Leu
35 40 45

```
Ile Ile Leu Asn Ser Asn Leu His Thr Pro Met Tyr Phe Phe Leu Phe
     50                  55                  60

Asn Leu Ser Phe Ile Asp Phe Cys Tyr Ser Phe Val Phe Thr Pro Lys
 65                  70                  75                  80

Met Leu Met Ser Phe Val Ser Glu Lys Asn Ile Ile Pro Phe Thr Gly
                 85                  90                  95

Cys Met Thr Gln Leu Phe Phe Phe Cys Phe Phe Ala His Ser Glu Ser
            100                 105                 110

Trp Val Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys
        115                 120                 125

Pro Leu Leu Tyr Lys Ala Ile Met Leu Pro Arg Ile Cys Cys Leu Leu
    130                 135                 140

Met Phe Val Ser Tyr Leu Ile Gly Phe Ala Ser Ala Met Val Leu Ala
145                 150                 155                 160

Gly Leu Met Ile Arg Leu Asn Phe Cys Asn Asn Asn Ile Ile Asn His
                165                 170                 175

Tyr Met Cys Asp Ile Phe Pro Val Leu Arg Ile Ser Cys Ser Asn Thr
            180                 185                 190

Tyr Leu Asn Glu Leu Val Ser Thr Ala Val Val Gly Thr Ala Ile Ile
        195                 200                 205

Leu Cys Ser Leu Ile Ile Phe Ile Ser Tyr Ala Met Ile Leu Phe Asn
    210                 215                 220

Ile Val His Met Ser Ser Gly Lys Gly Trp Ser Lys Ala Leu Gly Thr
225                 230                 235                 240

Cys Gly Ser His Ile Ile Thr Val Ser Phe Phe Tyr Gly Ser Gly Leu
                245                 250                 255

Leu Ala Tyr Val Lys Pro Ser Ser Ala Glu Thr Val Gly Gln Gly Lys
            260                 265                 270

Phe Phe Ser Val Phe Tyr Thr Phe Leu Val Pro Met Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Val Lys Lys Thr
    290                 295                 300
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Ile Lys Arg Ile Thr Ser
305 310

<210> 67
<211> 958
<212> DNA
<213> Homo sapiens

<400> 67
atgaaagtca tgaagcaaat ggttacagaa agtaattctt cagtgactga gttcattctt 60
atgggattaa cagttcaaaa agagctccag ttgcctctgt tcatcctatt cttgttaaac 120
tacacagcca ctgtggtagg aaacctgagc ttaatgaatc tcatttgcct aaattcacat 180
cttcacactc ccatgtactt tttcatcttc aatctgtcct gcattgattt ttgttattca 240
tttgtttcta accccacaat gctgaggagt tttgttacag agcagaacac catatcctat 300
gaaggatgca tgagtcaact atttttcttc tgcttttttg taaactctga atgttatgtg 360
ctgacagcca tggcctatga tcgctacgtg gccatctgtc atcccctcaa gtacacaact 420
gtcatgtctc ctaagatctg ctgtctgctg gtgtttggtt cttacttgat gggttttgct 480
ggtgccctga ctcatacagg gtttatgatc aggctcagtt tttgtaattc taacatcatc 540
aaccactaca tgtgtgacat ctttcccctc cttcagctct cttgtactag cacctatgtc 600
aacgagcttg tgagctctgc tgtagttgga acaattatca ttttatctag catcattatt 660
ttagtctcat atgctatgat cctttccaat atccttcata tgtcatcaag taagggttgg 720
tcaaaagccc tgggcacttg tgggtcccac atcataactg ttagcctctt ttatgggtct 780
ggattgcttg cctatatcaa gccaacatct gctgagactg tggaccaggg gaaattttta 840
tcaatatttt acacccttgt ggtacccatg ctgaatcctc tcatttacag cctcagaaac 900
aaggatgtca aacttgctct gaagagaaca atgaaaagag tcacaacctg aatgaaca 958

<210> 68
<211> 316
<212> PRT
<213> Homo sapiens

<400> 68
Met Lys Val Met Lys Gln Met Val Thr Glu Ser Asn Ser Ser Val Thr
1 5 10 15

Glu Phe Ile Leu Met Gly Leu Thr Val Gln Lys Glu Leu Gln Leu Pro
20 25 30

Leu Phe Ile Leu Phe Leu Leu Asn Tyr Thr Ala Thr Val Val Gly Asn
35 40 45

Leu Ser Leu Met Asn Leu Ile Cys Leu Asn Ser His Leu His Thr Pro
50 55 60

Met Tyr Phe Phe Ile Phe Asn Leu Ser Cys Ile Asp Phe Cys Tyr Ser
65 70 75 80

```
Phe Val Ser Asn Pro Thr Met Leu Arg Ser Phe Val Thr Glu Gln Asn
                 85                  90                  95

Thr Ile Ser Tyr Glu Gly Cys Met Ser Gln Leu Phe Phe Phe Cys Phe
            100                 105                 110

Phe Val Asn Ser Glu Cys Tyr Val Leu Thr Ala Met Ala Tyr Asp Arg
        115                 120                 125

Tyr Val Ala Ile Cys His Pro Leu Lys Tyr Thr Thr Val Met Ser Pro
    130                 135                 140

Lys Ile Cys Cys Leu Leu Val Phe Gly Ser Tyr Leu Met Gly Phe Ala
145                 150                 155                 160

Gly Ala Leu Thr His Thr Gly Phe Met Ile Arg Leu Ser Phe Cys Asn
                165                 170                 175

Ser Asn Ile Ile Asn His Tyr Met Cys Asp Ile Phe Pro Leu Leu Gln
            180                 185                 190

Leu Ser Cys Thr Ser Thr Tyr Val Asn Glu Leu Val Ser Ser Ala Val
        195                 200                 205

Val Gly Thr Ile Ile Ile Leu Ser Ser Iie Ile Ile Leu Val Ser Tyr
    210                 215                 220

Ala Met Ile Leu Ser Asn Ile Leu His Met Ser Ser Ser Lys Gly Trp
225                 230                 235                 240

Ser Lys Ala Leu Gly Thr Cys Gly Ser His Ile Ile Thr Val Ser Leu
                245                 250                 255

Phe Tyr Gly Ser Gly Leu Leu Ala Tyr Ile Lys Pro Thr Ser Ala Glu
            260                 265                 270

Thr Val Asp Gln Gly Lys Phe Leu Ser Ile Phe Tyr Thr Leu Val Val
        275                 280                 285

Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys
    290                 295                 300

Leu Ala Leu Lys Arg Thr Met Lys Arg Val Thr Thr
305                 310                 315
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<210> 69

<211> 975
<212> DNA
<213> Homo sapiens

<400> 69
gaatggcctc tggcaatgac tccaccacag tgaaggagtt tattctgttg ggcttgacac 60
agcaaccaga gctccagctg ccttttcttct tcctgttctt gggaatctat gtggtctcca 120
ttgtggggaa cctgggcttg attgttctga ttgttttgaa tcctcacctg cacaccccca 180
tgtactactt tctcttcaac ctttccttca ttgatttctg ctactcctct gtcataaccc 240
ccaaaatgct ggtgggtttt gtgaaacaga atatcatttc tcatgctgag tgcatgactc 300
aactcttttt ctttgccttc tttgttattg atgaatgttg tattttgaca gcaatgtcct 360
atgacagata tgtggccata tgtaagccat tgctttataa ggttaccatg tcctatcagg 420
tctgcttcat gatgacagtg agtgtgtaca tgatggggtt tgtgggtgcc atagcccaca 480
caatttgcat gctgagactc accttctgtg atggcaacat cattaatcac tacatgtgtg 540
acataccccc tctcctgaag ctctcctgca caaacacctc tgtcaatgag ctggtggttt 600
tcattgttgt gggtgtcaat gtgataggac ctacattgat catctttact tcttatactt 660
tgatcatttt caacatttca catatccgtt ccactgaagg cagatccaag gctattagta 720
cctgtagctc gcacataata gctgtttcta ttttctttgg agcctcagca ttcatgtatc 780
ttaagccttc tcctgttgga tctgtgggtg aagataaagt atctacggtt ttctacacca 840
ttgtgggccc gatgttgaac cctttcatct acagtttgag gaacaaggat gtccacattg 900
cactgcataa gactttgaag aaaagcatgc ttatctagat agaaactttt tttcttctag 960
attcagatct tacat 975

<210> 70
<211> 311
<212> PRT
<213> Homo sapiens

<400> 70
Met Ala Ser Gly Asn Asp Ser Thr Thr Val Lys Glu Phe Ile Leu Leu
1 5 10 15

Gly Leu Thr Gln Gln Pro Glu Leu Gln Leu Pro Phe Phe Phe Leu Phe
20 25 30

Leu Gly Ile Tyr Val Val Ser Ile Val Gly Asn Leu Gly Leu Ile Val
35 40 45

Leu Ile Val Leu Asn Pro His Leu His Thr Pro Met Tyr Tyr Phe Leu
50 55 60

Phe Asn Leu Ser Phe Ile Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro
65 70 75 80

Lys Met Leu Val Gly Phe Val Lys Gln Asn Ile Ile Ser His Ala Glu
85 90 95

```
Cys Met Thr Gln Leu Phe Phe Phe Ala Phe Phe Val Ile Asp Glu Cys
            100                 105                 110

Cys Ile Leu Thr Ala Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Lys
        115                 120                 125

Pro Leu Leu Tyr Lys Val Thr Met Ser Tyr Gln Val Cys Phe Met Met
    130                 135                 140

Thr Val Ser Val Tyr Met Met Gly Phe Val Gly Ala Ile Ala His Thr
145                 150                 155                 160

Ile Cys Met Leu Arg Leu Thr Phe Cys Asp Gly Asn Ile Ile Asn His
                165                 170                 175

Tyr Met Cys Asp Ile Pro Pro Leu Leu Lys Leu Ser Cys Thr Asn Thr
            180                 185                 190

Ser Val Asn Glu Leu Val Val Phe Ile Val Val Gly Val Asn Val Ile
        195                 200                 205

Gly Pro Thr Leu Ile Ile Phe Thr Ser Tyr Thr Leu Ile Ile Phe Asn
    210                 215                 220

Ile Ser His Ile Arg Ser Thr Glu Gly Arg Ser Lys Ala Ile Ser Thr
225                 230                 235                 240

Cys Ser Ser His Ile Ile Ala Val Ser Ile Phe Phe Gly Ala Ser Ala
                245                 250                 255

Phe Met Tyr Leu Lys Pro Ser Pro Val Gly Ser Val Gly Glu Asp Lys
            260                 265                 270

Val Ser Thr Val Phe Tyr Thr Ile Val Gly Pro Met Leu Asn Pro Phe
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val His Ile Ala Leu His Lys Thr
    290                 295                 300

Leu Lys Lys Ser Met Leu Ile
305                 310
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<210> 71
<211> 964
<212> DNA
<213> Homo sapiens

<400> 71
caaataacta tggaaaatga ctcttttgtg tctgaattta tccttatggg actgacagat 60
catcctgaac tccagttgtc cttgtttgtt ctctttttga tgaactacac agccattgtg 120
atgggaaact tgagcttaat gattctcatt ttcttgaatt caaaccttca cacccccatg 180
tacttttttca tcttcaattt gtccttcatt gatttttgtt attcattcgt ctttaccccc 240
aagatgctaa tgagcttttt tttagagaaa aacaccatct ccttcagagg atgcatgact 300
cagctgttct tcttctgctt ttttgtgaac tctgagagtt atgtgctgac agccatggcc 360
tacgatcgct atgtggccat ctgtaagcct ttactataca agactatcat ggtacctagg 420
atctgttgtc ttctgatgtt tgtttcatat ttgatagggt ttactagtgc catgatcctc 480
acaggcttaa tgtttaggct caacttttgt aataaccaca tcatcaatca ctacatgtgt 540
gatatcttcc ctgtcattca gatctcctgc agtgacacct atctcaatga gcttgttagt 600
actgctgtgg taggtacagg tatcatttta tgtagcctcc ttatcttaat gtcttatgct 660
ctgatccttt tcaatatcct taatatgtcc tcaggtaagg gttggtccaa agccatgggc 720
acttgtggct cccacatcat aaccgttagt ctcttttatg ggtctgggct ccttgcttat 780
gtcaagccat catctgctga gactgtgggc cagggaaaat ttttctcact gttttataca 840
tttctcgtgc ccatgctgaa tcctctcata tacagtctcc agaacaaaga tgtcaaagtt 900
gctgtgaaga aaaccttgaa gagaatctca aattgactca accactggca cttcacagaa 960
ccct 964

<210> 72
<211> 308
<212> PRT
<213> Homo sapiens

<400> 72
Met Glu Asn Asp Ser Phe Val Ser Glu Phe Ile Leu Met Gly Leu Thr
1 5 10 15

Asp His Pro Glu Leu Gln Leu Ser Leu Phe Val Leu Phe Leu Met Asn
20 25 30

Tyr Thr Ala Ile Val Met Gly Asn Leu Ser Leu Met Ile Leu Ile Phe
35 40 45

Leu Asn Ser Asn Leu His Thr Pro Met Tyr Phe Phe Ile Phe Asn Leu
50 55 60

Ser Phe Ile Asp Phe Cys Tyr Ser Phe Val Phe Thr Pro Lys Met Leu
65 70 75 80

Met Ser Phe Phe Leu Glu Lys Asn Thr Ile Ser Phe Arg Gly Cys Met
85 90 95

Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Asn Ser Glu Ser Tyr Val
100 105 110

Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu

115 120 125

Leu Tyr Lys Thr Ile Met Val Pro Arg Ile Cys Cys Leu Leu Met Phe
130 135 140

Val Ser Tyr Leu Ile Gly Phe Thr Ser Ala Met Ile Leu Thr Gly Leu
145 150 155 160

Met Phe Arg Leu Asn Phe Cys Asn Asn His Ile Ile Asn His Tyr Met
165 170 175

Cys Asp Ile Phe Pro Val Ile Gln Ile Ser Cys Ser Asp Thr Tyr Leu
180 185 190

Asn Glu Leu Val Ser Thr Ala Val Val Gly Thr Gly Ile Ile Leu Cys
195 200 205

Ser Leu Leu Ile Leu Met Ser Tyr Ala Leu Ile Leu Phe Asn Ile Leu
210 215 220

Asn Met Ser Ser Gly Lys Gly Trp Ser Lys Ala Met Gly Thr Cys Gly
225 230 235 240

Ser His Ile Ile Thr Val Ser Leu Phe Tyr Gly Ser Gly Leu Leu Ala
245 250 255

Tyr Val Lys Pro Ser Ser Ala Glu Thr Val Gly Gln Gly Lys Phe Phe
260 265 270

Ser Leu Phe Tyr Thr Phe Leu Val Pro Met Leu Asn Pro Leu Ile Tyr
275 280 285

Ser Leu Gln Asn Lys Asp Val Lys Val Ala Val Lys Lys Thr Leu Lys
290 295 300

Arg Ile Ser Asn
305

<210> 73
<211> 943
<212> DNA
<213> Homo sapiens

<400> 73
ctcctgtgct ttaaaatatg gttgctacaa acaatgtgac tgaaataatt ttcgtgggat 60
tttcccagaa ttggagtgag cagagggtca tttctgtgat gtttctcctc atgtacacag 120
ctgttgtgct gggcaatggc ctcattgtgg tgaccatcct ggccagcaaa gtgctcacct 180

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cccccatgta tttctttctc agctacttat cctttgtgga gatctgctac tgttctgtca 240
tggcccccaa gcttatcttt gactccttta tcaagaggaa agtcatttct ctcaagggct 300
gcctcacaca gatgttttcc ctccatttct ttggtggcac tgaggccttt ctcctgatgg 360
tgatggccta tgaccgctat gtggccatct gcaagccctt gcactacatg gccatcatga 420
accagcgaat gtgtggtctc ctcgtgagga tagcatgggg cgggggcctg ctgcattctg 480
ttgggcaaac cttcctgatt ttccagctcc cgttctgtgg ccccaacatc atggaccact 540
acttctgtga tgtccaccca gtgctggagc tggcctgcgc agacaccttc ttcattagcc 600
tgctgatcat caccaatggc ggctccatct ccgtagtcag tttcttcgtg ctgatggctt 660
cctacctgat catcctgcac ttcctgagaa gccacaactt ggaggggcag cacaaggccc 720
tctccacctg tgcctctcat gtcacagttg tcgacctgtt cttcatacct tgctccttgg 780
tctatattag gccctgtgtc accctccctg cagacaagat agttgctgta ttttatacag 840
tggtcacacc tctcttaaac cctgtgattt actccttcag gaatgctgaa gtgaaaaatg 900
ccatgaggag atttattggg ggaaaagtaa tttgagaaga gaa                   943
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<210> 74
<211> 305
<212> PRT
<213> Homo sapiens

<400> 74

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Met Val Ala Thr Asn Asn Val Thr Glu Ile Ile Phe Val Gly Phe Ser
  1               5                  10                  15

Gln Asn Trp Ser Glu Gln Arg Val Ile Ser Val Met Phe Leu Leu Met
             20                  25                  30

Tyr Thr Ala Val Val Leu Gly Asn Gly Leu Ile Val Val Thr Ile Leu
         35                  40                  45

Ala Ser Lys Val Leu Thr Ser Pro Met Tyr Phe Phe Leu Ser Tyr Leu
     50                  55                  60

Ser Phe Val Glu Ile Cys Tyr Cys Ser Val Met Ala Pro Lys Leu Ile
 65                  70                  75                  80

Phe Asp Ser Phe Ile Lys Arg Lys Val Ile Ser Leu Lys Gly Cys Leu
                 85                  90                  95

Thr Gln Met Phe Ser Leu His Phe Phe Gly Gly Thr Glu Ala Phe Leu
            100                 105                 110

Leu Met Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
        115                 120                 125

His Tyr Met Ala Ile Met Asn Gln Arg Met Cys Gly Leu Leu Val Arg
    130                 135                 140
```

```
Ile Ala Trp Gly Gly Gly Leu Leu His Ser Val Gly Gln Thr Phe Leu
145                 150                 155                 160

Ile Phe Gln Leu Pro Phe Cys Gly Pro Asn Ile Met Asp His Tyr Phe
                165                 170                 175

Cys Asp Val His Pro Val Leu Glu Leu Ala Cys Ala Asp Thr Phe Phe
            180                 185                 190

Ile Ser Leu Leu Ile Ile Thr Asn Gly Gly Ser Ile Ser Val Val Ser
        195                 200                 205

Phe Phe Val Leu Met Ala Ser Tyr Leu Ile Ile Leu His Phe Leu Arg
    210                 215                 220

Ser His Asn Leu Glu Gly Gln His Lys Ala Leu Ser Thr Cys Ala Ser
225                 230                 235                 240

His Val Thr Val Val Asp Leu Phe Phe Ile Pro Cys Ser Leu Val Tyr
                245                 250                 255

Ile Arg Pro Cys Val Thr Leu Pro Ala Asp Lys Ile Val Ala Val Phe
            260                 265                 270

Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Val Ile Tyr Ser Phe Arg
        275                 280                 285

Asn Ala Glu Val Lys Asn Ala Met Arg Arg Phe Ile Gly Gly Lys Val
    290                 295                 300

Ile
305
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<210> 75
<211> 943
<212> DNA
<213> Homo sapiens

<400> 75
ctcctgtgct ttaaaatatg gttgctacaa acaatgtgac tgaaataatt ttcgtgggat 60
tttcccagaa ttggagtgag cagagggtca tttctgtgat gtttctcctc atgtacacag 120
ctgttgtgct gggcaatggc ctcattgtgg tgaccatcct ggccagcaaa gtgctcacct 180
cccccatgta tttctttctc agctacttat cctttgtgga gatctgctac tgttctgtca 240
tggcccccaa gcttatcttt gactccttta tcaagaggaa agtcatttct ctcaagggct 300
gcctcacaca gatgttttcc ctccatttct ttggtggcac tgaggccttt ctcctgatgg 360
tgatggccta tgaccgctat gtggccatct gcaagccctt gcactacatg gccatcatga 420
accagcgaat gtgtggtctc ctcgtgagga tagcatgggg cgggggcctg ctgcattctg 480

ttgggcaaac cttcctgatt ttccagctcc cgttctgtgg ccccaacatc atggaccact 540
acttctgtga tgtccaccca gtgctggagc tggcctgcgc agacaccttc ttcattagcc 600
tgctgatcat caccaatggc ggctccatct ccgtagtcag tttcttcgtg ctgatggctt 660
cctacctgat catcctgcac ttcctgagaa gccacaactt ggaggggcag cacaaggccc 720
tctccacctg tgcctctcat gtcacagttg tcgacctgtt cttcatacct tgctccttgg 780
tctatattag gccctgtgtc accctccctg cagacaagat agttgctgta ttttatacag 840
tggtcacacc tctcttaaac cctgtgattt actccttcag gaatgctgaa gtgaaaaatg 900
ccatgaggag atttattggg ggaaaagtaa tttgagaaga gaa 943

<210> 76
<211> 305
<212> PRT
<213> Homo sapiens

<400> 76

Met Val Ala Thr Asn Asn Val Thr Glu Ile Ile Phe Val Gly Phe Ser
1 5 10 15

Gln Asn Trp Ser Glu Gln Arg Val Ile Ser Val Met Phe Leu Leu Met
20 25 30

Tyr Thr Ala Val Val Leu Gly Asn Gly Leu Ile Val Val Thr Ile Leu
35 40 45

Ala Ser Lys Val Leu Thr Ser Pro Met Tyr Phe Phe Leu Ser Tyr Leu
50 55 60

Ser Phe Val Glu Ile Cys Tyr Cys Ser Val Met Ala Pro Lys Leu Ile
65 70 75 80

Phe Asp Ser Phe Ile Lys Arg Lys Val Ile Ser Leu Lys Gly Cys Leu
85 90 95

Thr Gln Met Phe Ser Leu His Phe Phe Gly Gly Thr Glu Ala Phe Leu
100 105 110

Leu Met Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
115 120 125

His Tyr Met Ala Ile Met Asn Gln Arg Met Cys Gly Leu Leu Val Arg
130 135 140

Ile Ala Trp Gly Gly Gly Leu Leu His Ser Val Gly Gln Thr Phe Leu
145 150 155 160

Ile Phe Gln Leu Pro Phe Cys Gly Pro Asn Ile Met Asp His Tyr Phe
165 170 175

```
Cys Asp Val His Pro Val Leu Glu Leu Ala Cys Ala Asp Thr Phe Phe
            180                 185                 190

Ile Ser Leu Leu Ile Ile Thr Asn Gly Gly Ser Ile Ser Val Val Ser
        195                 200                 205

Phe Phe Val Leu Met Ala Ser Tyr Leu Ile Ile Leu His Phe Leu Arg
    210                 215                 220

Ser His Asn Leu Glu Gly Gln His Lys Ala Leu Ser Thr Cys Ala Ser
225                 230                 235                 240

His Val Thr Val Val Asp Leu Phe Phe Ile Pro Cys Ser Leu Val Tyr
                245                 250                 255

Ile Arg Pro Cys Val Thr Leu Pro Ala Asp Lys Ile Val Ala Val Phe
            260                 265                 270

Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Val Ile Tyr Ser Phe Arg
        275                 280                 285

Asn Ala Glu Val Lys Asn Ala Met Arg Arg Phe Ile Gly Gly Lys Val
    290                 295                 300

Ile
305
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<210> 77
<211> 961
<212> DNA
<213> Homo sapiens

<400> 77
tggaatccat ggccagtaca agtaatgtga ctgagttgat tttcactggc cttttccagg 60
atccagctgt gcagagtgta tgctttgtgg tgtttctccc cgtgtacctt gccacggtgg 120
tgggcaatgg cctcatcgtt ctgacggtca gtatcagcaa gagtctggat tctcccatgt 180
acttcttcct tagctgcctg tccttggtgg agatcagtta ttcctccact atcgccccta 240
aattcatcat agacttactt gccaagatta aaaccatctc tctggaaggc tgtctgactc 300
agatattctt cttccacttc tttggggttg ctgagatcct tttgattgtg gtgatggcct 360
atgattgcta cgtggccatt tgcaagcctc ttcattatat gaacattatc agtcgtcaac 420
tgtgtcacct tctggtggct ggttcctggc tgggggggctt ttgtcactcc ataattcaga 480
ttctcgttat catccaattg cccttctgtg gtcccaatgt gattgaccac tatttctgtg 540
acctccagcc tttattcaag cttgcctgca ctgacacctt catggagggg gttattgtgt 600
tggccaacag tggattattc tctgtcttct ccttcctcat cttggtgtcc tcttatattg 660
tcattctggt caacttgagg aaccattctg cagaggggag gcacaaagcc ctctccacct 720
gtgcttctca catcacagtg gtcatcttgt tttttggacc tgctatcttc ctctacatgc 780

gaccttcttc cactttcact gaagataaac ttgtggctgt attctacacg gtcatcaccc 840
ccatgctgaa ccccatcatt tacacactca ggaatgcaga ggtgaaaatc gccataagaa 900
gattgtggag caaaaaggag aatccaggga gggagtgaaa aaagagctta gggatgaaaa 960
a 961

<210> 78
<211> 309
<212> PRT
<213> Homo sapiens

<400> 78
Met Ala Ser Thr Ser Asn Val Thr Glu Leu Ile Phe Thr Gly Leu Phe
1 5 10 15

Gln Asp Pro Ala Val Gln Ser Val Cys Phe Val Val Phe Leu Pro Val
20 25 30

Tyr Leu Ala Thr Val Val Gly Asn Gly Leu Ile Val Leu Thr Val Ser
35 40 45

Ile Ser Lys Ser Leu Asp Ser Pro Met Tyr Phe Phe Leu Ser Cys Leu
50 55 60

Ser Leu Val Glu Ile Ser Tyr Ser Ser Thr Ile Ala Pro Lys Phe Ile
65 70 75 80

Ile Asp Leu Leu Ala Lys Ile Lys Thr Ile Ser Leu Glu Gly Cys Leu
85 90 95

Thr Gln Ile Phe Phe Phe His Phe Phe Gly Val Ala Glu Ile Leu Leu
100 105 110

Ile Val Val Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Lys Pro Leu
115 120 125

His Tyr Met Asn Ile Ile Ser Arg Gln Leu Cys His Leu Leu Val Ala
130 135 140

Gly Ser Trp Leu Gly Gly Phe Cys His Ser Ile Ile Gln Ile Leu Val
145 150 155 160

Ile Ile Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Tyr Phe
165 170 175

Cys Asp Leu Gln Pro Leu Phe Lys Leu Ala Cys Thr Asp Thr Phe Met
180 185 190

```
Glu Gly Val Ile Val Leu Ala Asn Ser Gly Leu Phe Ser Val Phe Ser
        195                 200                 205

Phe Leu Ile Leu Val Ser Ser Tyr Ile Val Ile Leu Val Asn Leu Arg
    210                 215                 220

Asn His Ser Ala Glu Gly Arg His Lys Ala Leu Ser Thr Cys Ala Ser
225                 230                 235                 240

His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Ala Ile Phe Leu Tyr
                245                 250                 255

Met Arg Pro Ser Ser Thr Phe Thr Glu Asp Lys Leu Val Ala Val Phe
            260                 265                 270

Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Ile Ile Tyr Thr Leu Arg
        275                 280                 285

Asn Ala Glu Val Lys Ile Ala Ile Arg Arg Leu Trp Ser Lys Lys Glu
    290                 295                 300

Asn Pro Gly Arg Glu
305
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<210> 79
<211> 954
<212> DNA
<213> Homo sapiens

<400> 79
caatggataa agaaaacagc tcaatggtga ctgagtttat cttcatgggc atcacccagg 60
accctcagat ggagatcatc ttcttcgtgg tcttcctcat agtttacctg gttaatgtag 120
tggggaatat tggtatgatt atcctgatta caacagacac tcagcttcac acacccatgt 180
atttttttcct ctgcaacctc tcctttgttg acctgggcta ctcctcagcc attgccccca 240
ggatgctggc tgacttccta acaaatcaca aagttatctc cttctccagc tgtgccaccc 300
agtttgcttt ttttgtaggt tttgtggatg ctgagtgcta tgtcctggca gccatggcct 360
atggtcgttt tgtggccatt tgtcgacccc tccactatag caccttcatg tccaagcagg 420
tctgcttggc tctcatgctg ggctcttacc tggctggtct agtgagttta gtagcccaca 480
ctaccctcac cttcagcctg agttactgtg gttccaatat catcaatcat ttcttctgcg 540
aaatcccacc actcttggcc ctctcttgct cagacaccta catcagtgag atcttgctct 600
tcagtctgtg tggcttcatt gaattcagca ccatcctcat catcttcatc tcctatacct 660
ttatccttgt tgcaatcatc agaatgcgtt cagctgaagg ccgccttaag gctttctcca 720
cctgcgggtc tcaccttact ggcatcaccc tcttctatgg cacagtcatg tttatgtacc 780
tgaggccaac atccagctac tccctggacc aagacaagtg ggcctctgtg ttctacacgg 840
ttatcatccc catgttaaat cccttgatct acagtttgcg gaacaaggat gtgaaagctg 900
ctttcaaaaa gctaattgga aaaaaatctc aataataaca caaaatgaaa atct   954

<210> 80
<211> 310
<212> PRT
<213> Homo sapiens

<400> 80
Met Asp Lys Glu Asn Ser Ser Met Val Thr Glu Phe Ile Phe Met Gly
1 5 10 15

Ile Thr Gln Asp Pro Gln Met Glu Ile Ile Phe Phe Val Val Phe Leu
20 25 30

Ile Val Tyr Leu Val Asn Val Val Gly Asn Ile Gly Met Ile Ile Leu
35 40 45

Ile Thr Thr Asp Thr Gln Leu His Thr Pro Met Tyr Phe Phe Leu Cys
50 55 60

Asn Leu Ser Phe Val Asp Leu Gly Tyr Ser Ser Ala Ile Ala Pro Arg
65 70 75 80

Met Leu Ala Asp Phe Leu Thr Asn His Lys Val Ile Ser Phe Ser Ser
85 90 95

Cys Ala Thr Gln Phe Ala Phe Phe Val Gly Phe Val Asp Ala Glu Cys
100 105 110

Tyr Val Leu Ala Ala Met Ala Tyr Gly Arg Phe Val Ala Ile Cys Arg
115 120 125

Pro Leu His Tyr Ser Thr Phe Met Ser Lys Gln Val Cys Leu Ala Leu
130 135 140

Met Leu Gly Ser Tyr Leu Ala Gly Leu Val Ser Leu Val Ala His Thr
145 150 155 160

Thr Leu Thr Phe Ser Leu Ser Tyr Cys Gly Ser Asn Ile Ile Asn His
165 170 175

Phe Phe Cys Glu Ile Pro Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr
180 185 190

Tyr Ile Ser Glu Ile Leu Leu Phe Ser Leu Cys Gly Phe Ile Glu Phe
195 200 205

Ser Thr Ile Leu Ile Ile Phe Ile Ser Tyr Thr Phe Ile Leu Val Ala
210 215 220

```
Ile Ile Arg Met Arg Ser Ala Glu Gly Arg Leu Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Gly Ser His Leu Thr Gly Ile Thr Leu Phe Tyr Gly Thr Val Met
                245                 250                 255

Phe Met Tyr Leu Arg Pro Thr Ser Ser Tyr Ser Leu Asp Gln Asp Lys
            260                 265                 270

Trp Ala Ser Val Phe Tyr Thr Val Ile Ile Pro Met Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ala Ala Phe Lys Lys Leu
    290                 295                 300

Ile Gly Lys Lys Ser Gln
305                 310
```

<210> 81
<211> 981
<212> DNA
<213> Homo sapiens

<400> 81
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aatgactttt gaaaatgctt ctatggtaat tgaattcatt ctcttgggga taacagacca 60
acctgacctc aaaattccat ttttcctact ctttttttgta ggatacatga taactgtgtt 120
gggaaatttg accttgatca ttttaattgg gctaaattct cacctccaca cacccatgta 180
ctttctcttg tttaacttgt ctttcattga tctctgttat tcttctgtga ttacacccaa 240
aatgctgatg agctttatac aaaaaaagaa tattatctct tatacagggt gtatgatcca 300
gttatacttc ttttgctttt ttgtcatttc tgagtgttat gtgctgacct caatggccta 360
tgatcgctat gtggcaatct gcaatccact gttgtataat gttaccttgt cttctaaggt 420
atgttgttat ctgatgcttg gttcgtattt catgggattt tctggtgcca tgatacacac 480
tggatgtatt ctaagactga cattttgtga tggaaatacc atcaaccact atttttgtga 540
tctcctccct ttgctgcaaa tctcctgtac cagcacctat atcaatgaga tagagctgtt 600
cattgtagca ggaaaagaca taattgtacc cactatcatc atctttatct cttatggctt 660
catcctcttc agtgttctca aaataaaatc cactgaaagc aggtctaaag ctttcagcac 720
ctgcagttcc catatgcttg ctgtttctct cttctttgga tcaggtgcat tcatgtatct 780
taaacctacc tcagctctat ctatcaataa ggggaaattc tcttctcttt tttataccat 840
tgtggttccc atgatgaacc ctttaattta cagcttgagg aacaaagatg ttaaagctgc 900
cctgagaaag actttgaaca ggagaatatt ttcatcataa actggatatc tctgagccta 960
cacttaaaca atagagagat t                                          981
```

<210> 82
<211> 312
<212> PRT

<213> Homo sapiens

<400> 82

```
Met Thr Phe Glu Asn Ala Ser Met Val Ile Glu Phe Ile Leu Leu Gly
  1               5                  10                  15

Ile Thr Asp Gln Pro Asp Leu Lys Ile Pro Phe Phe Leu Leu Phe Phe
             20                  25                  30

Val Gly Tyr Met Ile Thr Val Leu Gly Asn Leu Thr Leu Ile Ile Leu
         35                  40                  45

Ile Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Leu Leu Phe
     50                  55                  60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Ile Thr Pro Lys
 65                  70                  75                  80

Met Leu Met Ser Phe Ile Gln Lys Lys Asn Ile Ile Ser Tyr Thr Gly
                 85                  90                  95

Cys Met Ile Gln Leu Tyr Phe Phe Cys Phe Phe Val Ile Ser Glu Cys
            100                 105                 110

Tyr Val Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
        115                 120                 125

Pro Leu Leu Tyr Asn Val Thr Leu Ser Ser Lys Val Cys Cys Tyr Leu
    130                 135                 140

Met Leu Gly Ser Tyr Phe Met Gly Phe Ser Gly Ala Met Ile His Thr
145                 150                 155                 160

Gly Cys Ile Leu Arg Leu Thr Phe Cys Asp Gly Asn Thr Ile Asn His
                165                 170                 175

Tyr Phe Cys Asp Leu Leu Pro Leu Leu Gln Ile Ser Cys Thr Ser Thr
            180                 185                 190

Tyr Ile Asn Glu Ile Glu Leu Phe Ile Val Ala Gly Lys Asp Ile Ile
        195                 200                 205

Val Pro Thr Ile Ile Ile Phe Ile Ser Tyr Gly Phe Ile Leu Phe Ser
    210                 215                 220

Val Leu Lys Ile Lys Ser Thr Glu Ser Arg Ser Lys Ala Phe Ser Thr
225                 230                 235                 240
```

```
Cys Ser Ser His Met Leu Ala Val Ser Leu Phe Phe Gly Ser Gly Ala
                245                 250                 255

Phe Met Tyr Leu Lys Pro Thr Ser Ala Leu Ser Ile Asn Lys Gly Lys
            260                 265                 270

Phe Ser Ser Leu Phe Tyr Thr Ile Val Val Pro Met Met Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ala Ala Leu Arg Lys Thr
    290                 295                 300

Leu Asn Arg Arg Ile Phe Ser Ser
305                 310
```

<210> 83
<211> 936
<212> DNA
<213> Homo sapiens

<400> 83
aatggactca gtaaatattt ctttggtgac tgaattcatt ctggtgggat taactgacaa 60
gccttatcta caaataccct tgttctttat atttctggca atgtacctag tcactgcatt 120
ggggaattta tctttgataa tattaactgt gttgaattct caccttcaca cccctatgta 180
ctttttcctc tttaacttgt cctttgtaga cttctgctat tcttctgtgt tcactccaca 240
aatgttgatg aactttataa caaggaagaa tacaatttct tacatggaat gtatgagcca 300
actttatttc ttttgttttt ttgttatttc tgagtgttat gtgttgactt caatggccta 360
tgatcgctat gtggccattt gtaaaccact gctgtataat cttgtcatgt cctctaaatt 420
atgtttgaac ctaatgcttg tttcctactt tattgcattt tctgagtctg tggctcacac 480
tgtttgcata atgagactga acttctgtga tgccaacaaa atcaaccact acttctgtga 540
tattccacct ttgctccaac tttcctgtac aaccacatat atcaacaagc ttgtagtttt 600
tgttgcttct agcatcaata tcattgttcc catttcaact atatttattt cctatggttt 660
tattctctcc agcatctttc acatccattc ttctgaaggc aggtccaaag ctttcagcac 720
ctgtagctca cacatcattg ctgcttttct gttctttggt tcaggtgcat ttatgtattt 780
ccaaccatcc tcagctgagt ctatggatga aggaaaaatc tcttctgtct tttatactaa 840
tgtgattccc atgatgaatc ctctactcta cagcttgagg aacaaagaca taaaagtggc 900
tctgaggaaa accctgagca agaggaacat ttaact   936

<210> 84
<211> 310
<212> PRT
<213> Homo sapiens

<400> 84
```
Met Asp Ser Val Asn Ile Ser Leu Val Thr Glu Phe Ile Leu Val Gly
  1               5                  10                  15
```

Leu Thr Asp Lys Pro Tyr Leu Gln Ile Pro Leu Phe Phe Ile Phe Leu
20 25 30

Ala Met Tyr Leu Val Thr Ala Leu Gly Asn Leu Ser Leu Ile Ile Leu
35 40 45

Thr Val Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe
50 55 60

Asn Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Val Phe Thr Pro Gln
65 70 75 80

Met Leu Met Asn Phe Ile Thr Arg Lys Asn Thr Ile Ser Tyr Met Glu
85 90 95

Cys Met Ser Gln Leu Tyr Phe Phe Cys Phe Phe Val Ile Ser Glu Cys
100 105 110

Tyr Val Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys
115 120 125

Pro Leu Leu Tyr Asn Leu Val Met Ser Ser Lys Leu Cys Leu Asn Leu
130 135 140

Met Leu Val Ser Tyr Phe Ile Ala Phe Ser Glu Ser Val Ala His Thr
145 150 155 160

Val Cys Ile Met Arg Leu Asn Phe Cys Asp Ala Asn Lys Ile Asn His
165 170 175

Tyr Phe Cys Asp Ile Pro Pro Leu Leu Gln Leu Ser Cys Thr Thr Thr
180 185 190

Tyr Ile Asn Lys Leu Val Val Phe Val Ala Ser Ser Ile Asn Ile Ile
195 200 205

Val Pro Ile Ser Thr Ile Phe Ile Ser Tyr Gly Phe Ile Leu Ser Ser
210 215 220

Ile Phe His Ile His Ser Ser Glu Gly Arg Ser Lys Ala Phe Ser Thr
225 230 235 240

Cys Ser Ser His Ile Ile Ala Ala Phe Leu Phe Phe Gly Ser Gly Ala
245 250 255

Phe Met Tyr Phe Gln Pro Ser Ser Ala Glu Ser Met Asp Glu Gly Lys
260 265 270

```
Ile Ser Ser Val Phe Tyr Thr Asn Val Ile Pro Met Met Asn Pro Leu
        275                 280                 285

Leu Tyr Ser Leu Arg Asn Lys Asp Ile Lys Val Ala Leu Arg Lys Thr
    290                 295                 300

Leu Ser Lys Arg Asn Ile
305                 310
```

<210> 85
<211> 946
<212> DNA
<213> Homo sapiens

<400> 85
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gtgcaaatgg cagatacaaa tcactccaca gtgactgagt tcatccttgc tggattaaca 60
gacaaaccag agctgcagct gcccctcttc ctcctctttc ttggaatcta cctgctcaca 120
gtgctgggga acctgggcat gatcatcctg atcctgctca gctcccacct gcacaccccc 180
atgtactttt tcctcagcag cctgtccttc attgacctct gttactccac tgttattacc 240
ccgaagatgt tggtgaactt tgtggcaaag aagaatgtca tctcctatga ggaatgtatg 300
actcagctct atttcttcct tgcttttgtt atatctgagt gtcacatgtt ggctgcaatg 360
gcatatgacc gctatgttgc catttgcaat cccttgcttt acaatgtcac tatgtcttac 420
caaatctgtt cctggatggt aggtggggta tatggcatgg gtttaattgg tgcagcagtt 480
catactctct gcatgctaag agtggttttc tgtaaggcta atataataaa ccattacttc 540
tgtgatcttt tcccattgat ggagcttgcc tgctccagta cttatgtcaa tgaggtagta 600
ctcctgtgtc tcagtgcttt caatatcttt attccaacat tgactatctt gggttcttac 660
atcttcatca tcattagtat cctccgtatc aaatccacgg aaggcagatt caaagccttc 720
agcacatgta gctcccactt ctctgccgtt tctgtcttct ttggttccct ggcattcatg 780
tatctgcagc ccttctctgt cagctccaaa gacaaaggca aagtgtcctc tgtgttttac 840
actactattg tgcccatgct gaaccccatg atctatagcc tgaggaatag ggatgttaaa 900
cttgctctaa ataagttatt tcaaaagaaa ttccatgtgt aaagaa                946
```

<210> 86
<211> 311
<212> PRT
<213> Homo sapiens

<400> 86
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Met Ala Asp Thr Asn His Ser Thr Val Thr Glu Phe Ile Leu Ala Gly
  1               5                  10                  15

Leu Thr Asp Lys Pro Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu
             20                  25                  30

Gly Ile Tyr Leu Leu Thr Val Leu Gly Asn Leu Gly Met Ile Ile Leu
```

```
         35                  40                  45

Ile Leu Leu Ser Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser
     50                  55                  60

Ser Leu Ser Phe Ile Asp Leu Cys Tyr Ser Thr Val Ile Thr Pro Lys
 65                  70                  75                  80

Met Leu Val Asn Phe Val Ala Lys Lys Asn Val Ile Ser Tyr Glu Glu
                 85                  90                  95

Cys Met Thr Gln Leu Tyr Phe Phe Leu Ala Phe Val Ile Ser Glu Cys
            100                 105                 110

His Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
        115                 120                 125

Pro Leu Leu Tyr Asn Val Thr Met Ser Tyr Gln Ile Cys Ser Trp Met
    130                 135                 140

Val Gly Gly Val Tyr Gly Met Gly Leu Ile Gly Ala Ala Val His Thr
145                 150                 155                 160

Leu Cys Met Leu Arg Val Val Phe Cys Lys Ala Asn Ile Ile Asn His
                165                 170                 175

Tyr Phe Cys Asp Leu Phe Pro Leu Met Glu Leu Ala Cys Ser Ser Thr
            180                 185                 190

Tyr Val Asn Glu Val Val Leu Leu Cys Leu Ser Ala Phe Asn Ile Phe
        195                 200                 205

Ile Pro Thr Leu Thr Ile Leu Gly Ser Tyr Ile Phe Ile Ile Ile Ser
    210                 215                 220

Ile Leu Arg Ile Lys Ser Thr Glu Gly Arg Phe Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Ser Ser His Phe Ser Ala Val Ser Val Phe Phe Gly Ser Leu Ala
                245                 250                 255

Phe Met Tyr Leu Gln Pro Phe Ser Val Ser Ser Lys Asp Lys Gly Lys
            260                 265                 270

Val Ser Ser Val Phe Tyr Thr Thr Ile Val Pro Met Leu Asn Pro Met
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Arg Asp Val Lys Leu Ala Leu Asn Lys Leu
```

290 295 300

Phe Gln Lys Lys Phe His Val
305 310

<210> 87
<211> 950
<212> DNA
<213> Homo sapiens

<400> 87
aatggctcta gtaaatggct caactgtgac tgaattcatt cttttgggat taacagacca 60
gcctggactc caaatgcctc ttttcttatt gtttctatta atgtacatga tcacagtatt 120
cggtaatttg actttgatat ttttaattct gttaaattct cacctacata ctcccatgta 180
tttttttctc ttgaatttat cttttgtaga tctctgttat tcttctgtga ttacaccaaa 240
aatgctgatg aattttatac taaagaagaa tcttatctct tatatgggat gtatgtccca 300
actctacttc ttttgttttt tcataatttc tgaatgttat gtactggtgt caatggccta 360
tgatcgctat gttgcaatct gtaatccact gttgtataac actgccatgt ccccaagggt 420
gtgttcttat ctcatgcttg gtacatattt gatgggattt tttgatgcta tgatccatac 480
tggttgcatg ctcagactga gcttctgtga tggcaatatc atcaaccact atttctgcga 540
tgtcctccct ttgctgcagc tctcttgtac cagcacctat gtcaatgaga cagaaatttt 600
cattgtaggg ggaaaagaca tcattcttcc cagtgccatt atctttttct cttatggctt 660
cattctctcc aacattttcc aaataagatc cactttgggc cggtccaagg ccttcagcac 720
ttgcagttcc catataattg ctgtctctct gttctttgga tcatgtggat tcatgtacct 780
gaaaccttcc tctgctgtat ctattgatca aggaaaaatc tcttccattt tttataccat 840
tgtggttcct atgatgaacc ccctaattta tagcttgaga aacaaagatg ttaaagttgc 900
cctaagaaag actttgagta ggaggaagtt tttaaaagta tagttgcaaa 950

<210> 88
<211> 313
<212> PRT
<213> Homo sapiens

<400> 88
Met Ala Leu Val Asn Gly Ser Thr Val Thr Glu Phe Ile Leu Leu Gly
1 5 10 15

Leu Thr Asp Gln Pro Gly Leu Gln Met Pro Leu Phe Leu Leu Phe Leu
20 25 30

Leu Met Tyr Met Ile Thr Val Phe Gly Asn Leu Thr Leu Ile Phe Leu
35 40 45

Ile Leu Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Leu
50 55 60

Asn Leu Ser Phe Val Asp Leu Cys Tyr Ser Ser Val Ile Thr Pro Lys
65 70 75 80

Met Leu Met Asn Phe Ile Leu Lys Lys Asn Leu Ile Ser Tyr Met Gly
85 90 95

Cys Met Ser Gln Leu Tyr Phe Phe Cys Phe Phe Ile Ile Ser Glu Cys
100 105 110

Tyr Val Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
115 120 125

Pro Leu Leu Tyr Asn Thr Ala Met Ser Pro Arg Val Cys Ser Tyr Leu
130 135 140

Met Leu Gly Thr Tyr Leu Met Gly Phe Phe Asp Ala Met Ile His Thr
145 150 155 160

Gly Cys Met Leu Arg Leu Ser Phe Cys Asp Gly Asn Ile Ile Asn His
165 170 175

Tyr Phe Cys Asp Val Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr
180 185 190

Tyr Val Asn Glu Thr Glu Ile Phe Ile Val Gly Gly Lys Asp Ile Ile
195 200 205

Leu Pro Ser Ala Ile Ile Phe Phe Ser Tyr Gly Phe Ile Leu Ser Asn
210 215 220

Ile Phe Gln Ile Arg Ser Thr Leu Gly Arg Ser Lys Ala Phe Ser Thr
225 230 235 240

Cys Ser Ser His Ile Ile Ala Val Ser Leu Phe Phe Gly Ser Cys Gly
245 250 255

Phe Met Tyr Leu Lys Pro Ser Ser Ala Val Ser Ile Asp Gln Gly Lys
260 265 270

Ile Ser Ser Ile Phe Tyr Thr Ile Val Val Pro Met Met Asn Pro Leu
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Thr
290 295 300

Leu Ser Arg Arg Lys Phe Leu Lys Val
305 310

<210> 89
<211> 943
<212> DNA
<213> Homo sapiens

<400> 89
tatggctttg ataaatggct ctgtggtaac agaattcatt ctcttgggat taacagacca 60
gcctgacctt caagtacccc tgttcctggt ctttctatta atgtacatga taactgcatt 120
ggggaatttg actttaatta ttctcatcgt gctgaattct caccttcata cccctatgta 180
ttttttttctt tttaacttgt cctttgtgga cttttgttac tcttctgtaa ttataccaaa 240
aatgctgatg aactttattc taaagaaaaa ttttatctcc tatgtgggtt gtatgactca 300
gttctactta tttggtttct gtgtcatttt ggagtgttat attctcacat caatggccta 360
tgatcgttat gtggctatct gcaatccact cttgtataac attgtcatgt ctccgaagat 420
gtgttcctat ctcatgcttg gttcatattt gatggggttt tctggtgcta tgatccacac 480
tggatgtgtc ctgagactgt cgttctgtga tggcaacatc atcaaccact atttctgtga 540
tctcctccct ttgctgcaac tctcctgcac cagcacctat gtcaatgaga tagaggtgtt 600
aattgtagca gggaaggata tcattgtgcc cactgtgatc atctttatct catatggctt 660
catcctttcc agcatatttc aaatgaaatc cactaagggc atgtcaaagg ccttcagcac 720
ctgtagttcc cacataattg ctgtctctct gttctttgga tctggtgcat ttatgtatct 780
taaacccaac tcaactggaa caatgaacaa tggaaagata ccttcaataa tttataccat 840
cttaattcct atgatgaatc cattaattta tagcttgaga aacaaagatg ttaaagttgc 900
cttgagaaaa actttgagaa agaaaatctt gtaatcagaa act 943

<210> 90
<211> 310
<212> PRT
<213> Homo sapiens

<400> 90
Met Ala Leu Ile Asn Gly Ser Val Val Thr Glu Phe Ile Leu Leu Gly
1 5 10 15

Leu Thr Asp Gln Pro Asp Leu Gln Val Pro Leu Phe Leu Val Phe Leu
20 25 30

Leu Met Tyr Met Ile Thr Ala Leu Gly Asn Leu Thr Leu Ile Ile Leu
35 40 45

Ile Val Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe
50 55 60

Asn Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Val Ile Ile Pro Lys
65 70 75 80

Met Leu Met Asn Phe Ile Leu Lys Lys Asn Phe Ile Ser Tyr Val Gly
85 90 95

```
Cys Met Thr Gln Phe Tyr Leu Phe Gly Phe Cys Val Ile Leu Glu Cys
            100                 105                 110

Tyr Ile Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
        115                 120                 125

Pro Leu Leu Tyr Asn Ile Val Met Ser Pro Lys Met Cys Ser Tyr Leu
    130                 135                 140

Met Leu Gly Ser Tyr Leu Met Gly Phe Ser Gly Ala Met Ile His Thr
145                 150                 155                 160

Gly Cys Val Leu Arg Leu Ser Phe Cys Asp Gly Asn Ile Ile Asn His
                165                 170                 175

Tyr Phe Cys Asp Leu Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr
            180                 185                 190

Tyr Val Asn Glu Ile Glu Val Leu Ile Val Ala Gly Lys Asp Ile Ile
        195                 200                 205

Val Pro Thr Val Ile Ile Phe Ile Ser Tyr Gly Phe Ile Leu Ser Ser
    210                 215                 220

Ile Phe Gln Met Lys Ser Thr Lys Gly Met Ser Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Ser Ser His Ile Ile Ala Val Ser Leu Phe Phe Gly Ser Gly Ala
                245                 250                 255

Phe Met Tyr Leu Lys Pro Asn Ser Thr Gly Thr Met Asn Asn Gly Lys
            260                 265                 270

Ile Pro Ser Ile Ile Tyr Thr Ile Leu Ile Pro Met Met Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Thr
    290                 295                 300

Leu Arg Lys Lys Ile Leu
305                 310
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<210> 91
<211> 981
<212> DNA
<213> Homo sapiens

<400> 91
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accagcctga ccttcaaatg cccctgttcc taatttttct aataatttat ttgataacag 120
catttggaaa tttgacttta ataattttaa ttgtgttgaa ttctcacctt cacacaccca 180
tgtacttttt cctctttaac ttatccttca tagatctttg ctattcttct ttgatcacac 240
ccaaaatgct gatgaacttt gtactagaga agaacattat ttcttacatg gggtgcatga 300
ctcagttcta cttctttggc ttttttgcga tttctgaatg ttatgtgctg acagcaatgg 360
cctatgatcg ctatgtggcc atttgtaatc cactcttgta tagtgttgcc atgtctccaa 420
agatgtgttc ctattttatt cttggttcat atttcatggg attttcaggt gccatgatcc 480
acacaggttg tgtaatgaga ctgaccttct gtgatggaaa caccatcaac cattactttt 540
gtgatctcct ccctttgctg caactctcct gcaccagcac ctatgtcaat gagatagagt 600
tgtttattgt aacaggaaaa gacatcattg tgcccactgt gatcatcttt gcttcttatg 660
gctttatcct ctccaatatc ctcaaaataa ggtccacttc aggcaggtcc aaagccttca 720
gcacttgcag ttcccacata attgctgttt ctatgttctt tggttcaagt gcatttatgt 780
atctcaaacc ttcttcagct gtatctatga atgaggcaaa gttctcttcc atattttaca 840
gcattgtggt acccatgatg aaccctctaa tctacagctt gaggaataaa gatgtcaaag 900
ttggcttgaa aaaaaccctg agcagaatgt ttagtcataa cctaatctca ttatagatat 960
aacacagaat ctttatattt a 981

<210> 92
<211> 316
<212> PRT
<213> Homo sapiens

<400> 92
Met Ala Leu Ala Asn Gly Ser Phe Val Thr Glu Phe Ile Leu Leu Gly
1 5 10 15

Leu Thr Asp Gln Pro Asp Leu Gln Met Pro Leu Phe Leu Ile Phe Leu
20 25 30

Ile Ile Tyr Leu Ile Thr Ala Phe Gly Asn Leu Thr Leu Ile Ile Leu
35 40 45

Ile Val Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe
50 55 60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Leu Ile Thr Pro Lys
65 70 75 80

Met Leu Met Asn Phe Val Leu Glu Lys Asn Ile Ile Ser Tyr Met Gly
85 90 95

Cys Met Thr Gln Phe Tyr Phe Phe Gly Phe Phe Ala Ile Ser Glu Cys
100 105 110

```
Tyr Val Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
        115                 120                 125

Pro Leu Leu Tyr Ser Val Ala Met Ser Pro Lys Met Cys Ser Tyr Phe
    130                 135                 140

Ile Leu Gly Ser Tyr Phe Met Gly Phe Ser Gly Ala Met Ile His Thr
145                 150                 155                 160

Gly Cys Val Met Arg Leu Thr Phe Cys Asp Gly Asn Thr Ile Asn His
                165                 170                 175

Tyr Phe Cys Asp Leu Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr
            180                 185                 190

Tyr Val Asn Glu Ile Glu Leu Phe Ile Val Thr Gly Lys Asp Ile Ile
        195                 200                 205

Val Pro Thr Val Ile Ile Phe Ala Ser Tyr Gly Phe Ile Leu Ser Asn
    210                 215                 220

Ile Leu Lys Ile Arg Ser Thr Ser Gly Arg Ser Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Ser Ser His Ile Ile Ala Val Ser Met Phe Phe Gly Ser Ser Ala
                245                 250                 255

Phe Met Tyr Leu Lys Pro Ser Ser Ala Val Ser Met Asn Glu Ala Lys
            260                 265                 270

Phe Ser Ser Ile Phe Tyr Ser Ile Val Val Pro Met Met Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Gly Leu Lys Lys Thr
    290                 295                 300

Leu Ser Arg Met Phe Ser His Asn Leu Ile Ser Leu
305                 310                 315
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<210> 93
<211> 969
<212> DNA
<213> Homo sapiens

<400> 93
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aatccagagc tccagttgcc tctattcctt accttcctat ctgtctattt gtttacagtt 120

gttggaaacc ttggcatgat tgtattgatt ctgattagtt ctcagctaca tacacctatg 180
tattatttac tcagcagtct gtcctttatt gactgctgtc agtctactgt cattgttcct 240
aaaatgctgt tgaactttgt gacagagaag aatgtcatcc tgtacccaga atgcatagct 300
cagttctatt tcttctgtac ttttgttgtt gcagaatgtc acatgttggc tgcaatggca 360
tatgaccgct atgtggctat atctaaccct ttgctttaca aagtacccat gtcctatcaa 420
gtctgtttgt tgatggtagc tgtggtgtat ggtattggct taatcagtgc cacagctcac 480
acagtcttcc tgctaagatt gtttttctgt aaggctgata aaataaacca ctacttttgt 540
gatcttttcc cattacttga gctgtcttgc tctagtactt ttatcaatga aatattagca 600
ctgtccttca gtgcatttaa tattattgta ccagccatga ccatcattgg ctcttacatc 660
ttcatcatta tcagcatttt gcacattaaa tcctctgggg gcagagtcaa ggcctttaga 720
acctgcagct cccatatctt ggctgttgct attttctttg gttctacaac attcatgtat 780
ctacaaccat cttcagtcag ctccatggac caagggaaag tgtcatctgt gttttatacc 840
attgttgtgc ctatgttgaa tcccatgatc tacagcctga gaaataaaga tgtcaaagtt 900
gccctaaaaa agttactaca aaagatgttt cctcaaaaca aggaatagat tttcttggaa 960
attactgca 969

<210> 94
<211> 314
<212> PRT
<213> Homo sapiens

<400> 94
Met Glu Glu Leu Asn His Thr Ser Val Thr Glu Phe Ile Leu Ala Gly
1 5 10 15

Leu Thr Glu Asn Pro Glu Leu Gln Leu Pro Leu Phe Leu Thr Phe Leu
20 25 30

Ser Val Tyr Leu Phe Thr Val Val Gly Asn Leu Gly Met Ile Val Leu
35 40 45

Ile Leu Ile Ser Ser Gln Leu His Thr Pro Met Tyr Tyr Leu Leu Ser
50 55 60

Ser Leu Ser Phe Ile Asp Cys Cys Gln Ser Thr Val Ile Val Pro Lys
65 70 75 80

Met Leu Leu Asn Phe Val Thr Glu Lys Asn Val Ile Leu Tyr Pro Glu
85 90 95

Cys Ile Ala Gln Phe Tyr Phe Phe Cys Thr Phe Val Val Ala Glu Cys
100 105 110

His Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Ser Asn
115 120 125

Pro Leu Leu Tyr Lys Val Pro Met Ser Tyr Gln Val Cys Leu Leu Met

```
    130                 135                 140

Val Ala Val Val Tyr Gly Ile Gly Leu Ile Ser Ala Thr Ala His Thr
145                 150                 155                 160

Val Phe Leu Leu Arg Leu Phe Phe Cys Lys Ala Asp Lys Ile Asn His
                165                 170                 175

Tyr Phe Cys Asp Leu Phe Pro Leu Leu Glu Leu Ser Cys Ser Ser Thr
            180                 185                 190

Phe Ile Asn Glu Ile Leu Ala Leu Ser Phe Ser Ala Phe Asn Ile Ile
        195                 200                 205

Val Pro Ala Met Thr Ile Ile Gly Ser Tyr Ile Phe Ile Ile Ile Ser
    210                 215                 220

Ile Leu His Ile Lys Ser Ser Gly Gly Arg Val Lys Ala Phe Arg Thr
225                 230                 235                 240

Cys Ser Ser His Ile Leu Ala Val Ala Ile Phe Phe Gly Ser Thr Thr
                245                 250                 255

Phe Met Tyr Leu Gln Pro Ser Ser Val Ser Ser Met Asp Gln Gly Lys
            260                 265                 270

Val Ser Ser Val Phe Tyr Thr Ile Val Val Pro Met Leu Asn Pro Met
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Lys Lys Leu
    290                 295                 300

Leu Gln Lys Met Phe Pro Gln Asn Lys Glu
305                 310
```

<210> 95
<211> 945
<212> DNA
<213> Homo sapiens

<400> 95
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cagtcagaac tccagctgcc cctgttcctc ttcttcacag gaatctatct gatcactgtg 120
tctgggaatc tgggcatgat tatactaatt gggctcagtt ccaacctgca cacacccatg 180
tactatttcc tcagcagttt gtccttcatt gactttggtc agtccacagt tgttacccct 240
aaaatgctgg tgagctttct gacagagaag aacctcatca cctaccctga atgcttggct 300
cagctctact ttgccatcat ttttggcaca gcagagagct acacattagc tgcaatggca 360

tatgaccgct atgttgccat ctgtaacccc ttggtttaca atatagccat gtcctctcag 420
atttactgtt ctctgatttc aggggtatac atttttgctg tgttctgtgc atcagtaaac 480
atgggcttca tgtttaggat ccagttctgc aaatcagatg taatcaacca ctatttctgt 540
gatttccttc ccctcttgaa acttgcatgc tctaatacat atgtcagtga aatgttgatt 600
ctatttttg gtacactgaa tatctttgtc ccaatgctga ccattattac ttcctacatc 660
tccattattt ccagcatcct ccgcattagc tctagtgagg gcaggtccaa agcctttagt 720
acttgcagtt cccacatctc tgctgttgct gtcttctatg gttctacagc atttgtgtac 780
ttacagccat cacgagtaag ttcaatagac caagggaaag tgtcctctgt gttttatacg 840
actgttgttc ccatgctgaa ccccttgatc tacagcctga ggaataagga tgtcagtgtt 900
gcaatgaaga aaatacttga aaggaaaaga ttcatgtaag cagaa 945

<210> 96
<211> 311
<212> PRT
<213> Homo sapiens

<400> 96
Met Pro Ala Gly Asn His Cys Thr Val Thr Val Phe Phe Leu Ala Gly
1 5 10 15

Leu Ser Glu Gln Ser Glu Leu Gln Leu Pro Leu Phe Leu Phe Phe Thr
20 25 30

Gly Ile Tyr Leu Ile Thr Val Ser Gly Asn Leu Gly Met Ile Ile Leu
35 40 45

Ile Gly Leu Ser Ser Asn Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
50 55 60

Ser Leu Ser Phe Ile Asp Phe Gly Gln Ser Thr Val Val Thr Pro Lys
65 70 75 80

Met Leu Val Ser Phe Leu Thr Glu Lys Asn Leu Ile Thr Tyr Pro Glu
85 90 95

Cys Leu Ala Gln Leu Tyr Phe Ala Ile Ile Phe Gly Thr Ala Glu Ser
100 105 110

Tyr Thr Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
115 120 125

Pro Leu Val Tyr Asn Ile Ala Met Ser Ser Gln Ile Tyr Cys Ser Leu
130 135 140

Ile Ser Gly Val Tyr Ile Phe Ala Val Phe Cys Ala Ser Val Asn Met
145 150 155 160

```
Gly Phe Met Phe Arg Ile Gln Phe Cys Lys Ser Asp Val Ile Asn His
                165                 170                 175

Tyr Phe Cys Asp Phe Leu Pro Leu Leu Lys Leu Ala Cys Ser Asn Thr
            180                 185                 190

Tyr Val Ser Glu Met Leu Ile Leu Phe Phe Gly Thr Leu Asn Ile Phe
        195                 200                 205

Val Pro Met Leu Thr Ile Ile Thr Ser Tyr Ile Ser Ile Ile Ser Ser
    210                 215                 220

Ile Leu Arg Ile Ser Ser Ser Glu Gly Arg Ser Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Ser Ser His Ile Ser Ala Val Ala Val Phe Tyr Gly Ser Thr Ala
                245                 250                 255

Phe Val Tyr Leu Gln Pro Ser Arg Val Ser Ser Ile Asp Gln Gly Lys
            260                 265                 270

Val Ser Ser Val Phe Tyr Thr Thr Val Val Pro Met Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Ser Val Ala Met Lys Lys Ile
    290                 295                 300

Leu Glu Arg Lys Arg Phe Met
305                 310
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<210> 97
<211> 942
<212> DNA
<213> Homo sapiens

<400> 97

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caaccagaac tgcaactgcc actcttcctc ctctttcttg gaatctacct gctcacagtg 120
ctggggaacc tgggcatgat catcctgatc ctgctcagct cgtacctgca cacccctatg 180
tacttcttcc tcagtagtct gtccttcatt gacttctgcc aatctactgt cattacccca 240
aaaatgctgg tgaaatttgt gagggagaag aatgaaatct cctaccctga gtgcataact 300
caactttgct tctttgtcat ttttgctgtt tcagaaagtt acatgctggc tgcaatggca 360
tatgatcgct atgttgccat ctgtagcccc ttactttaca gtagcatcat gtctcaacat 420
aagtgccttt ctctcgtttt aggagtttac attctaggca tagtttgtgc atcagctcat 480
gtaggatgta tatttaggat tgatttctgc aaatctgatt tgatcaacca ttatttctgt 540
gaccttattt ctattcttaa tctctcatgc tctaatattt ttgtgaatga tctcgtaatt 600
ctaattttta gtctaattaa taccattttc ccaaccctga ccatcctcag ttcttatgct 660
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ttcatcatta tcagcatcct acgcattaaa tccactgagg gaagatctaa agccttcagt 720
acctgcagct cccacatctc agctgttgct atcttttata tctctgctgg atttacgtat 780
ctgaacccat catcttccca ttcgatggat gaaggaaaag tgtcttctat attttacacc 840
atcattgttc ccatgctcaa ccccctgatt tacagtctta ggaataagga cgtgaaaatt 900
gctctgaaga aaatgattga atgaagataa ttcttctgat aa 942

<210> 98
<211> 307
<212> PRT
<213> Homo sapiens

<400> 98

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Asn Met Glu Lys Gly Asn Gln Ser Thr Val Asn Lys Phe Phe Leu Ser
  1               5                  10                  15

Gly Leu Thr Glu Gln Pro Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe
             20                  25                  30

Leu Gly Ile Tyr Leu Leu Thr Val Leu Gly Asn Leu Gly Met Ile Ile
         35                  40                  45

Leu Ile Leu Leu Ser Ser Tyr Leu His Thr Pro Met Tyr Phe Phe Leu
     50                  55                  60

Ser Ser Leu Ser Phe Ile Asp Phe Cys Gln Ser Thr Val Ile Thr Pro
 65                  70                  75                  80

Lys Met Leu Val Lys Phe Val Arg Glu Lys Asn Glu Ile Ser Tyr Pro
                 85                  90                  95

Glu Cys Ile Thr Gln Leu Cys Phe Phe Val Ile Phe Ala Val Ser Glu
            100                 105                 110

Ser Tyr Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys
        115                 120                 125

Ser Pro Leu Leu Tyr Ser Ser Ile Met Ser Gln His Lys Cys Leu Ser
    130                 135                 140

Leu Val Leu Gly Val Tyr Ile Leu Gly Ile Val Cys Ala Ser Ala His
145                 150                 155                 160

Val Gly Cys Ile Phe Arg Ile Asp Phe Cys Lys Ser Asp Leu Ile Asn
                165                 170                 175

His Tyr Phe Cys Asp Leu Ile Ser Ile Leu Asn Leu Ser Cys Ser Asn
            180                 185                 190
```

```
Ile Phe Val Asn Asp Leu Val Ile Leu Ile Phe Ser Leu Ile Asn Thr
        195                 200                 205

Ile Phe Pro Thr Leu Thr Ile Leu Ser Ser Tyr Ala Phe Ile Ile Ile
    210                 215                 220

Ser Ile Leu Arg Ile Lys Ser Thr Glu Gly Arg Ser Lys Ala Phe Ser
225                 230                 235                 240

Thr Cys Ser Ser His Ile Ser Ala Val Ala Ile Phe Tyr Ile Ser Ala
                245                 250                 255

Gly Phe Thr Tyr Leu Asn Pro Ser Ser Ser His Ser Met Asp Glu Gly
            260                 265                 270

Lys Val Ser Ser Ile Phe Tyr Thr Ile Ile Val Pro Met Leu Asn Pro
        275                 280                 285

Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ile Ala Leu Lys Lys
    290                 295                 300

Met Ile Glu
305
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<210> 99
<211> 946
<212> DNA
<213> Homo sapiens

<400> 99

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gcccagagct tcagctccca ctgttcctct tgtttctggg catacatgtg attacagtgg 120
tgggaaactt gggcatgatc ctcttaatca acattagttc tcaacttcac tctccaatgt 180
attattttct cagtcactta tccttcattg acctctgcta ttcctctgtc attacaccaa 240
agatgttggt gaactttgta tgtgcaaaga acacaatctc ctttaaggag tgcatgactc 300
agctttattt cttcctcctt ttagctattt cagaaggcta cctgctgaca gccatggcct 360
atgaccgcta tgttgccatc tgtagcccac tgctttataa cactgtaatg tcccacaagg 420
tctgttccat aatgatggct gtggtatact cactgggctt ctttggggct actgtccata 480
caacccgtat gacaatgttg tccttctgtg ggtctcatat tatcaggcac tatttttgtg 540
atattctacc tttgttgact ctgtcttgct caagtaccca tatcaacgaa gtactgctgt 600
ttattattgg tggagttaat accctagcac ctacactggc tgtcatcatc tcttatgctt 660
tcattctaac aagcattctt cgcatccgct ccaatgaagg acgttccaaa gcatttggca 720
cctgtagctc ccacattatg gctgtgggaa tcttctttgg atcaattact ttcatgtatt 780
tcaagccacc ttccagtaat aatatggaac aagagaaggt gtcctctgtg ttctacacca 840
cagtgatccc aatgctaaat cccctcatat acagtctgag gaacaaggat gtaaagactg 900
ctctgaaaaa gatggttggt agaaggcagt tatcctgaca aattga                946
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<210> 100
<211> 308
<212> PRT
<213> Homo sapiens

<400> 100
Met Asn His Ser Ser Val Thr Asp Phe Ile Leu Glu Gly Leu Thr Lys
1 5 10 15

Arg Pro Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu Gly Ile His
20 25 30

Val Ile Thr Val Val Gly Asn Leu Gly Met Ile Leu Leu Ile Asn Ile
35 40 45

Ser Ser Gln Leu His Ser Pro Met Tyr Tyr Phe Leu Ser His Leu Ser
50 55 60

Phe Ile Asp Leu Cys Tyr Ser Ser Val Ile Thr Pro Lys Met Leu Val
65 70 75 80

Asn Phe Val Cys Ala Lys Asn Thr Ile Ser Phe Lys Glu Cys Met Thr
85 90 95

Gln Leu Tyr Phe Phe Leu Leu Leu Ala Ile Ser Glu Gly Tyr Leu Leu
100 105 110

Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser Pro Leu Leu
115 120 125

Tyr Asn Thr Val Met Ser His Lys Val Cys Ser Ile Met Met Ala Val
130 135 140

Val Tyr Ser Leu Gly Phe Phe Gly Ala Thr Val His Thr Thr Arg Met
145 150 155 160

Thr Met Leu Ser Phe Cys Gly Ser His Ile Ile Arg His Tyr Phe Cys
165 170 175

Asp Ile Leu Pro Leu Leu Thr Leu Ser Cys Ser Ser Thr His Ile Asn
180 185 190

Glu Val Leu Leu Phe Ile Ile Gly Gly Val Asn Thr Leu Ala Pro Thr
195 200 205

Leu Ala Val Ile Ile Ser Tyr Ala Phe Ile Leu Thr Ser Ile Leu Arg

```
    210                 215                 220

Ile Arg Ser Asn Glu Gly Arg Ser Lys Ala Phe Gly Thr Cys Ser Ser
225                 230                 235                 240

His Ile Met Ala Val Gly Ile Phe Phe Gly Ser Ile Thr Phe Met Tyr
                245                 250                 255

Phe Lys Pro Pro Ser Ser Asn Asn Met Glu Gln Glu Lys Val Ser Ser
            260                 265                 270

Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser
        275                 280                 285

Leu Arg Asn Lys Asp Val Lys Thr Ala Leu Lys Lys Met Val Gly Arg
    290                 295                 300

Arg Gln Leu Ser
305
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<210> 101
<211> 995
<212> DNA
<213> Homo sapiens

<400> 101
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acaatggaag aaatcaatga tacctcagtg gctgagttca tcctcactgg gttaacagag 60
aacccagagc tccaattgcc tctatttctt atcttcctag ctgtatattt ggttacagtt 120
gttggaaacc ttggcatgat tgtattgatt ctgattagtt ctcagctaca tacacccatg 180
tattatttac tcaggagcct gtcttttatt gactgttgtc aatccactgt cattattccc 240
aaaatgctgt tgaactttgt gacagagatg aatatcatct catacccaca atgcatagct 300
cagttctact tcttctgtgc ttttgctgtt tcagaatgtc acatgttggc tgcaatggca 360
tatgaccgct atgtggctat atctaatcct ttgctttata atgtaaccat gtcctatcaa 420
gtctgttcgt tgatggtagc tgtggtgtat ggtattggct taatcagtgc cacagctcac 480
acagtcttcc tactaagagt gctttttgt aagtctgata taataaacca ctacttctgt 540
gatcttttcc cattactgga gctctcgtgc tctagtactt atattaatga agttctagca 600
ctctccttca gtgcatttaa tattattgta ccagctctga ccatccttag ctcttacatc 660
ttcatcattg tcagtgttct ccacattcaa tccactggag gcagagtcaa ggcctttcgc 720
acctgcagct cccacatcat ggctgttgca atatttttg gttctacagt attcatgtat 780
ctacagccat cttcagtcag ctccatggac caagggaaag tatcatcagt gttttatacc 840
attgttgtgc ctatgttgaa tcctctgatc tacagcctga gaaataaaga tgtcagagtt 900
tcccttaaaa agttactaca aaagataagt tttctcaaaa caaaaaatta gattaccttg 960
gcaatagatt atagcatata actttacaat taggg                           995
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<210> 102
<211> 315

<212> PRT
<213> Homo sapiens

<400> 102

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Met Glu Glu Ile Asn Asp Thr Ser Val Ala Glu Phe Ile Leu Thr Gly
  1               5                  10                  15

Leu Thr Glu Asn Pro Glu Leu Gln Leu Pro Leu Phe Leu Ile Phe Leu
             20                  25                  30

Ala Val Tyr Leu Val Thr Val Val Gly Asn Leu Gly Met Ile Val Leu
         35                  40                  45

Ile Leu Ile Ser Ser Gln Leu His Thr Pro Met Tyr Tyr Leu Leu Arg
     50                  55                  60

Ser Leu Ser Phe Ile Asp Cys Cys Gln Ser Thr Val Ile Ile Pro Lys
 65                  70                  75                  80

Met Leu Leu Asn Phe Val Thr Glu Met Asn Ile Ile Ser Tyr Pro Gln
                 85                  90                  95

Cys Ile Ala Gln Phe Tyr Phe Phe Cys Ala Phe Ala Val Ser Glu Cys
            100                 105                 110

His Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Ser Asn
        115                 120                 125

Pro Leu Leu Tyr Asn Val Thr Met Ser Tyr Gln Val Cys Ser Leu Met
    130                 135                 140

Val Ala Val Val Tyr Gly Ile Gly Leu Ile Ser Ala Thr Ala His Thr
145                 150                 155                 160

Val Phe Leu Leu Arg Val Leu Phe Cys Lys Ser Asp Ile Ile Asn His
                165                 170                 175

Tyr Phe Cys Asp Leu Phe Pro Leu Leu Glu Leu Ser Cys Ser Ser Thr
            180                 185                 190

Tyr Ile Asn Glu Val Leu Ala Leu Ser Phe Ser Ala Phe Asn Ile Ile
        195                 200                 205

Val Pro Ala Leu Thr Ile Leu Ser Ser Tyr Ile Phe Ile Ile Val Ser
    210                 215                 220

Val Leu His Ile Gln Ser Thr Gly Gly Arg Val Lys Ala Phe Arg Thr
225                 230                 235                 240
```

```
Cys Ser Ser His Ile Met Ala Val Ala Ile Phe Phe Gly Ser Thr Val
                245                 250                 255

Phe Met Tyr Leu Gln Pro Ser Ser Val Ser Ser Met Asp Gln Gly Lys
            260                 265                 270

Val Ser Ser Val Phe Tyr Thr Ile Val Val Pro Met Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Arg Val Ser Leu Lys Lys Leu
    290                 295                 300

Leu Gln Lys Ile Ser Phe Leu Lys Thr Lys Asn
305                 310                 315
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<210> 103
<211> 928
<212> DNA
<213> Homo sapiens

<400> 103
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aatgggcact gggaatcatt ctgtaacagt tgtgtttgtc ttggtgggat taacacagca 60
gcctgaactc ctgctgcccc tcttcattct gttcctgggc atctatgtgg tgacagcagt 120
ggggaacctg ggcatgatcc tgctcatcac agtcagtcca ctgctgcata ctcctatgta 180
ctatttcctc agcagcttat cctgtgttga tctctgctat tccactgtca ttacacccaa 240
aatgctggtg aactttcttg ggaagaaaaa tttgattgtc tactcagagt gcatggccca 300
gctctttttc tttgtgatct tcgtggtggc tgagggctac ctgctgactg ccatggcata 360
tgatcgctat gtggccatct gtagaccatt gctgtataat gtgatcatgt cctccagact 420
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aagtgctatg atgaatctga gcttctgtaa atcccacgtc ataagccatt atttctgtga 540
tgttcttccc ctcctaaacc tctcctgctc tgacataaag ctgaatgagc ttcttctatt 600
catcattgca ggcttcaaca ccttggtgcc cactctagct gttgccatct cttatgtctt 660
tattttctgc agcatccttc acatcaagtc atcaaagggc aggtccaaag cctttggaac 720
ctgcagctct catctcatgg ctgtggggat cttctttggg tctatcacct tcatgtattt 780
caagcctcct tcaagtaact ctctggagca agagaaggtg tcttctgtgt tctataccac 840
agtgatcccc atgctgaacc cattaatata cagtttgagg aacaaagatg tgaagaaagc 900
attgggcaaa tgtctggcag ggagataa                                    928
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<210> 104
<211> 308
<212> PRT
<213> Homo sapiens

<400> 104
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Met Gly Thr Gly Asn His Ser Val Thr Val Val Phe Val Leu Val Gly
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```
  1               5                  10                  15

Leu Thr Gln Gln Pro Glu Leu Leu Leu Pro Leu Phe Ile Leu Phe Leu
            20                  25                  30

Gly Ile Tyr Val Val Thr Ala Val Gly Asn Leu Gly Met Ile Leu Leu
        35                  40                  45

Ile Thr Val Ser Pro Leu Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
    50                  55                  60

Ser Leu Ser Cys Val Asp Leu Cys Tyr Ser Thr Val Ile Thr Pro Lys
65                  70                  75                  80

Met Leu Val Asn Phe Leu Gly Lys Lys Asn Leu Ile Val Tyr Ser Glu
                85                  90                  95

Cys Met Ala Gln Leu Phe Phe Phe Val Ile Phe Val Val Ala Glu Gly
            100                 105                 110

Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Arg
        115                 120                 125

Pro Leu Leu Tyr Asn Val Ile Met Ser Ser Arg Leu Cys Ser Leu Leu
    130                 135                 140

Val Leu Val Ala Phe Ile Leu Gly Phe Val Ser Ala Leu Ala His Thr
145                 150                 155                 160

Ser Ala Met Met Asn Leu Ser Phe Cys Lys Ser His Val Ile Ser His
                165                 170                 175

Tyr Phe Cys Asp Val Leu Pro Leu Leu Asn Leu Ser Cys Ser Asp Ile
            180                 185                 190

Lys Leu Asn Glu Leu Leu Leu Phe Ile Ile Ala Gly Phe Asn Thr Leu
        195                 200                 205

Val Pro Thr Leu Ala Val Ala Ile Ser Tyr Val Phe Ile Phe Cys Ser
    210                 215                 220

Ile Leu His Ile Lys Ser Ser Lys Gly Arg Ser Lys Ala Phe Gly Thr
225                 230                 235                 240

Cys Ser Ser His Leu Met Ala Val Gly Ile Phe Phe Gly Ser Ile Thr
                245                 250                 255

Phe Met Tyr Phe Lys Pro Pro Ser Ser Asn Ser Leu Glu Gln Glu Lys
```

```
            260                 265                 270

Val Ser Ser Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Leu Gly Lys Cys
    290                 295                 300

Leu Ala Gly Arg
305
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<210> 105
<211> 929
<212> DNA
<213> Homo sapiens

<400> 105

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taatggccac tgggaatcat tctgcagcag ttgtgtttgt tttggtggga ttaacacagc 60
agcctgagct cctgctgccc ctcttcattc tgttcctggg catctatgtg gtgacagcag 120
tggggaacct gggcatgatc ctgctcatca cagtcagccc actgctgcat actcccatgt 180
actatttcct cagcagctta tcctttgttg atctctccta ttccactgtc attacaccca 240
aaatgctggt gaactttctt gggaagaaaa atttcatcac ttattcggag tgcatggctc 300
agttcttttt ctttgcggtc tttgtggtca ctgagggtta cctcctgact gttatggcgt 360
atgatcacta cgtggccatc tgcagaccat tgctgtataa tgtgatgatg tcctctaaac 420
actgcttact gttagtgcta gttgccttca ccctaggcct tttttctgct gtagtacaca 480
caagtgctat gatgagtctg aacttctgta aaacctacat cataagtcat tacttctgtg 540
atgctcttcc tctcctcaaa ctttcctgct ctaacacaca tctcaatgag cttctcatat 600
ttattattgg agggatcaac accttggtgc ccaccctagc tgttgccatt tcctatgtct 660
tcatcttctg cagcatccgt cacatcaagt catcaaagag caggtccaaa gcctttggaa 720
cctgcagctc tcatctcatg gctgtgggga tcttctttgg gtctatcact ttcatgtatt 780
taaagccttc ttcaagtaac tctctggagc aagagaaggt gtcttctgtg ttctacacca 840
cagtgatccc catgctgaac ccattaatat acagtttgag gaacaaagat gtgaagaaag 900
cactgggcag attctctgta agaagataa                                   929
```

<210> 106
<211> 308
<212> PRT
<213> Homo sapiens

<400> 106

```
Met Ala Thr Gly Asn His Ser Ala Ala Val Val Phe Val Leu Val Gly
  1               5                  10                  15

Leu Thr Gln Gln Pro Glu Leu Leu Leu Pro Leu Phe Ile Leu Phe Leu
             20                  25                  30
```

Gly Ile Tyr Val Val Thr Ala Val Gly Asn Leu Gly Met Ile Leu Leu
35 40 45

Ile Thr Val Ser Pro Leu Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
50 55 60

Ser Leu Ser Phe Val Asp Leu Ser Tyr Ser Thr Val Ile Thr Pro Lys
65 70 75 80

Met Leu Val Asn Phe Leu Gly Lys Lys Asn Phe Ile Thr Tyr Ser Glu
85 90 95

Cys Met Ala Gln Phe Phe Phe Phe Ala Val Phe Val Val Thr Glu Gly
100 105 110

Tyr Leu Leu Thr Val Met Ala Tyr Asp His Tyr Val Ala Ile Cys Arg
115 120 125

Pro Leu Leu Tyr Asn Val Met Met Ser Ser Lys His Cys Leu Leu Leu
130 135 140

Val Leu Val Ala Phe Thr Leu Gly Leu Phe Ser Ala Val Val His Thr
145 150 155 160

Ser Ala Met Met Ser Leu Asn Phe Cys Lys Thr Tyr Ile Ile Ser His
165 170 175

Tyr Phe Cys Asp Ala Leu Pro Leu Leu Lys Leu Ser Cys Ser Asn Thr
180 185 190

His Leu Asn Glu Leu Leu Ile Phe Ile Ile Gly Gly Ile Asn Thr Leu
195 200 205

Val Pro Thr Leu Ala Val Ala Ile Ser Tyr Val Phe Ile Phe Cys Ser
210 215 220

Ile Arg His Ile Lys Ser Ser Lys Ser Arg Ser Lys Ala Phe Gly Thr
225 230 235 240

Cys Ser Ser His Leu Met Ala Val Gly Ile Phe Phe Gly Ser Ile Thr
245 250 255

Phe Met Tyr Leu Lys Pro Ser Ser Ser Asn Ser Leu Glu Gln Glu Lys
260 265 270

Val Ser Ser Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Leu
275 280 285

```
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Leu Gly Arg Phe
    290                 295                 300

Ser Val Arg Arg
305
```

<210> 107
<211> 959
<212> DNA
<213> Homo sapiens

<400> 107

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ggaattgaac atagcatatg gcaacaggaa actattgcat gttacctgag ttcattctga 60
ctgggctctc aaagaagcca caactccaga tgcctctctt cctcctcttc ctaggaatct 120
atgtggtcac tgtagtgggg aatttgggca tgattacact gattaagctc agttctcacc 180
tgcatacccc catgtactat ttcctcagta gtttgtcctt tattgatctc tgccattcca 240
ctgtcattac ccccaaaatg ttggtgaact ttgtgataga gaaaaacatc atttcctaca 300
ctggatgcat ggctcagctc tatttctttc taatttttgc tattgcagag tgtcatatgt 360
tagctgcaat ggcatatgat cgctatgttg ccatctgtaa ccccttgctt tacaatgtaa 420
ccatgtccta tcagatttac acttccctga tctttggagt ctatattatt ggtgtggttt 480
gtgcatcagc tcacacaggc ttcatgatca gaatacagtt ttgtaactta gaggtgatca 540
accactattt ctgtgatctt cttcccctgc tggagcttgc tcactctagt acttatgtta 600
atgaattgtt agttttatgt tttggtacat ttaacattgt tgttccaacc atgactattc 660
ttacttctta catcttcatc attgccaaca tcttacgcat tcgttctact ggaggcaggt 720
ccaaagcctt cagtacctgc agctcccaca tcttagctgt tgctgtgttc tttgggtctg 780
ctgcattcat gtaccttcaa ccatcatcag tcagctccat ggaccaaggg aaagtgtcct 840
ctgtgtttta taccattgtt gttcccatgc tgaacccctt gatctatagt ctgaggaata 900
aggatgtcag tgttgccctg aagaaaatac tagaaagaaa attattcatg taaactgaa  959
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<210> 108
<211> 311
<212> PRT
<213> Homo sapiens

<400> 108

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Met Ala Thr Gly Asn Tyr Cys Met Leu Pro Glu Phe Ile Leu Thr Gly
  1               5                  10                  15

Leu Ser Lys Lys Pro Gln Leu Gln Met Pro Leu Phe Leu Leu Phe Leu
             20                  25                  30

Gly Ile Tyr Val Val Thr Val Val Gly Asn Leu Gly Met Ile Thr Leu
         35                  40                  45

Ile Lys Leu Ser Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
     50                  55                  60
```

Ser Leu Ser Phe Ile Asp Leu Cys His Ser Thr Val Ile Thr Pro Lys
65 70 75 80

Met Leu Val Asn Phe Val Ile Glu Lys Asn Ile Ile Ser Tyr Thr Gly
85 90 95

Cys Met Ala Gln Leu Tyr Phe Phe Leu Ile Phe Ala Ile Ala Glu Cys
100 105 110

His Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
115 120 125

Pro Leu Leu Tyr Asn Val Thr Met Ser Tyr Gln Ile Tyr Thr Ser Leu
130 135 140

Ile Phe Gly Val Tyr Ile Ile Gly Val Val Cys Ala Ser Ala His Thr
145 150 155 160

Gly Phe Met Ile Arg Ile Gln Phe Cys Asn Leu Glu Val Ile Asn His
165 170 175

Tyr Phe Cys Asp Leu Leu Pro Leu Leu Glu Leu Ala His Ser Ser Thr
180 185 190

Tyr Val Asn Glu Leu Leu Val Leu Cys Phe Gly Thr Phe Asn Ile Val
195 200 205

Val Pro Thr Met Thr Ile Leu Thr Ser Tyr Ile Phe Ile Ile Ala Asn
210 215 220

Ile Leu Arg Ile Arg Ser Thr Gly Gly Arg Ser Lys Ala Phe Ser Thr
225 230 235 240

Cys Ser Ser His Ile Leu Ala Val Ala Val Phe Phe Gly Ser Ala Ala
245 250 255

Phe Met Tyr Leu Gln Pro Ser Ser Val Ser Ser Met Asp Gln Gly Lys
260 265 270

Val Ser Ser Val Phe Tyr Thr Ile Val Val Pro Met Leu Asn Pro Leu
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Ser Val Ala Leu Lys Lys Ile
290 295 300

Leu Glu Arg Lys Leu Phe Met
305 310

<210> 109
<211> 993
<212> DNA
<213> Homo sapiens

<400> 109
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gtgtggagat catgctcttt gtcctgtttt tgtctttcta catcttcacc ttagtgggga 120
acttgctcat acttttgcg attgtctcct ccagtcggct tcacactccc atgtacttct 180
tcctgtgcca gctgtcagtg tgtgatatat tttttccctc cgttagctct cccaagatgc 240
tgttctacct ctcaggaaat agcagagcca tctcctatac aggctgtgtt tgccagctct 300
tcttctacca tttccttggc tgtactgaat gtttcctata cacagtgatg gcttatgacc 360
gctttattgc catatgcttc cctctaaggt actcaataat catgaaccac aaagtgtgtg 420
ccatcatggc tgtggggaca tcatttttg gctgcattca ggctactttt ctgaccactc 480
taaccttcca gttgccctat tgtggtccca atgaagtgga ttattacttc tgtgatatcc 540
ctgtaatgct gaagctggct tgtgcagaca catcaaccct agagatggtg ggtctcatca 600
gtgtggggct gatgcccctc agctgcttcc tcctcattct cacctcttac agcttcatcc 660
tttgctccat tcttcagatc cgctctactg agggccggca tagagccttc tctacctgca 720
gtgcccatct cactgccatt ctcctggcct tcatgccagt agtcctcata tacctccagc 780
ctactcccaa tccctggctt aatgcagcag ttcaagtctt gaataacctg gtgacaccta 840
tgctgaatcc tttgatctat agcctaagga ataaggaagt aaaatgttct ctaaagaaaa 900
tgctacagca agggcctatt ctgtctaaaa agtgataaag gcttagattc taatacttta 960
atactataac ttcttcaaaa acctttcctt tct 993

<210> 110
<211> 310
<212> PRT
<213> Homo sapiens

<400> 110
Met Arg Asn Phe Ser Val Val Thr Gln Phe Ile Leu Leu Gly Ile Pro
1 5 10 15

His Thr Glu Gly Val Glu Ile Met Leu Phe Val Leu Phe Leu Ser Phe
20 25 30

Tyr Ile Phe Thr Leu Val Gly Asn Leu Leu Ile Leu Phe Ala Ile Val
35 40 45

Ser Ser Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Cys Gln Leu
50 55 60

Ser Val Cys Asp Ile Phe Phe Pro Ser Val Ser Ser Pro Lys Met Leu
65 70 75 80

```
Phe Tyr Leu Ser Gly Asn Ser Arg Ala Ile Ser Tyr Thr Gly Cys Val
                 85                  90                  95

Cys Gln Leu Phe Phe Tyr His Phe Leu Gly Cys Thr Glu Cys Phe Leu
            100                 105                 110

Tyr Thr Val Met Ala Tyr Asp Arg Phe Ile Ala Ile Cys Phe Pro Leu
        115                 120                 125

Arg Tyr Ser Ile Ile Met Asn His Lys Val Cys Ala Ile Met Ala Val
    130                 135                 140

Gly Thr Ser Phe Phe Gly Cys Ile Gln Ala Thr Phe Leu Thr Thr Leu
145                 150                 155                 160

Thr Phe Gln Leu Pro Tyr Cys Gly Pro Asn Glu Val Asp Tyr Tyr Phe
                165                 170                 175

Cys Asp Ile Pro Val Met Leu Lys Leu Ala Cys Ala Asp Thr Ser Thr
            180                 185                 190

Leu Glu Met Val Gly Leu Ile Ser Val Gly Leu Met Pro Leu Ser Cys
        195                 200                 205

Phe Leu Leu Ile Leu Thr Ser Tyr Ser Phe Ile Leu Cys Ser Ile Leu
    210                 215                 220

Gln Ile Arg Ser Thr Glu Gly Arg His Arg Ala Phe Ser Thr Cys Ser
225                 230                 235                 240

Ala His Leu Thr Ala Ile Leu Leu Ala Phe Met Pro Val Val Leu Ile
                245                 250                 255

Tyr Leu Gln Pro Thr Pro Asn Pro Trp Leu Asn Ala Ala Val Gln Val
            260                 265                 270

Leu Asn Asn Leu Val Thr Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu
        275                 280                 285

Arg Asn Lys Glu Val Lys Cys Ser Leu Lys Lys Met Leu Gln Gln Gly
    290                 295                 300

Pro Ile Leu Ser Lys Lys
305                 310
```

<210> 111
<211> 974

<212> DNA
<213> Homo sapiens

<400> 111
gacatgacat caggaaacaa ctgcacagtg tctgaattct tcttggctgg gctctcagag 60
gagccagaac tccagctgcc actcttcctg ctcttcacag gaatatatct aatcactgtg 120
gtagggaacc tgggcatgat cacactgatt gggatcagtt cccacctgca cacagccatg 180
tacttttcc tcagcagtct ctccttcatt gacttctgtc agtccacagt tgttacccct 240
aaaatgctgg tgagctttct gacggagaag aacatcatct cctaccttgg atgcatggct 300
cagctctact tcttcatcat ttttggggct gcagagtgct acacattagc tgcaatggca 360
tatgaccgct atgttgccat ctgtaaccct ttactttaca ctgtagtcat gtcctatcag 420
gtttacagtt ccttgatttc aggagtgtat atttatgctg tgttctgtgc atcagttcac 480
acaggggtcc tgacaaggat tcagttttgc aaattagatg tgatcaacca ctatttctgt 540
gatattcttc ccctcttgaa gcttgcatgc tctaatacct atatcgatga aatgttgatt 600
ttatttttg gtacactgaa tatctttgct ccaacattga tcattattac ttcctacatc 660
ttcattattg caagcatctt ccacattcgc tccagggagg gcaggtccaa agccttcagc 720
acctgcagtt cacacatctc tgctgttgcc attttctatg gttctgctgc attcatgtac 780
ttacaaccat cacgagtgaa ttcgatggac caagggaaag tgtcctctgt gttttacact 840
actgttgtac ccatgctgaa ccccttgatc tacagcctaa ggaataagga tgttacagtt 900
gcactgaaga aaatacttga aagaaagaat ttcatgtggt cagaagtcac ataaataata 960
tttcttagag gaaa 974

<210> 112
<211> 316
<212> PRT
<213> Homo sapiens

<400> 112
Met Thr Ser Gly Asn Asn Cys Thr Val Ser Glu Phe Phe Leu Ala Gly
1 5 10 15

Leu Ser Glu Glu Pro Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Thr
20 25 30

Gly Ile Tyr Leu Ile Thr Val Val Gly Asn Leu Gly Met Ile Thr Leu
35 40 45

Ile Gly Ile Ser Ser His Leu His Thr Ala Met Tyr Phe Phe Leu Ser
50 55 60

Ser Leu Ser Phe Ile Asp Phe Cys Gln Ser Thr Val Val Thr Pro Lys
65 70 75 80

Met Leu Val Ser Phe Leu Thr Glu Lys Asn Ile Ile Ser Tyr Leu Gly
85 90 95

Cys Met Ala Gln Leu Tyr Phe Phe Ile Ile Phe Gly Ala Ala Glu Cys

```
            100                 105                 110

Tyr Thr Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
        115                 120                 125

Pro Leu Leu Tyr Thr Val Val Met Ser Tyr Gln Val Tyr Ser Ser Leu
    130                 135                 140

Ile Ser Gly Val Tyr Ile Tyr Ala Val Phe Cys Ala Ser Val His Thr
145                 150                 155                 160

Gly Val Leu Thr Arg Ile Gln Phe Cys Lys Leu Asp Val Ile Asn His
                165                 170                 175

Tyr Phe Cys Asp Ile Leu Pro Leu Leu Lys Leu Ala Cys Ser Asn Thr
            180                 185                 190

Tyr Ile Asp Glu Met Leu Ile Leu Phe Phe Gly Thr Leu Asn Ile Phe
        195                 200                 205

Ala Pro Thr Leu Ile Ile Ile Thr Ser Tyr Ile Phe Ile Ile Ala Ser
    210                 215                 220

Ile Phe His Ile Arg Ser Arg Glu Gly Arg Ser Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Ser Ser His Ile Ser Ala Val Ala Ile Phe Tyr Gly Ser Ala Ala
                245                 250                 255

Phe Met Tyr Leu Gln Pro Ser Arg Val Asn Ser Met Asp Gln Gly Lys
            260                 265                 270

Val Ser Ser Val Phe Tyr Thr Thr Val Val Pro Met Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Thr Val Ala Leu Lys Lys Ile
    290                 295                 300

Leu Glu Arg Lys Asn Phe Met Trp Ser Glu Val Thr
305                 310                 315
```

<210> 113
<211> 950
<212> DNA
<213> Homo sapiens

<400> 113

gacatggcag ccggaaacca ctgcacagtg actgagttct tcttagttgg gctctcagag 60
aagccagaat tccagctgcc cctcttcctc ctcttccttg gaatctatct aatcactgtg 120
acaggaaacg tgggcatgat cacactgatt gggcttagtt cccacctgca cacccccatg 180
tacttttttcg tcaggagtct gtccttcatt gacttctgtc agtccacagt tgttattcct 240
aaaatgctca tgagctttct gacagagaag aacatcattt cctactctgg atgcatggtt 300
cagctctact tcttcttcat atttggtatt gcagagtgct acacgttagc tgcaatggcc 360
tatgaccgat atgttgctat ttgtaacccc ttgctttata atgtaaccat gtcctatcag 420
atttacaatt ctctgatttc ggggtcatat atttttgctg tggtctgttc atccttaatc 480
actggcttca tgtttaggat tcagttctgt aatttagatg tgattaacca ctatttctgt 540
gatcttcttc ccctcttgaa tcttgcatcc tctaatatct atatcaatga aatattgatt 600
ctagttattg ctacactgaa tgtctttatc ccagtgatga ccattattac ttcctacatc 660
ttcattattg ccaccattct ctacattcac tccagtgagg gcaagttcaa agggtttagt 720
acttgtagta cccacatctc tgctgttgct atcttttatg gttcaggagc attcacatac 780
ttacagccct cattactgaa ttctatgggc caagcaaaag tgtcctctgt gttttgtact 840
acagttgtac ccatgctgaa ccccttcatc tacagcctga ggaataagga tgtcagtttt 900
gcactgaaaa aaatatttga aagaaaaaaa ttcatgtaag cagaaatcat 950

<210> 114
<211> 311
<212> PRT
<213> Homo sapiens

<400> 114
Met Ala Ala Gly Asn His Cys Thr Val Thr Glu Phe Phe Leu Val Gly
1 5 10 15

Leu Ser Glu Lys Pro Glu Phe Gln Leu Pro Leu Phe Leu Leu Phe Leu
20 25 30

Gly Ile Tyr Leu Ile Thr Val Thr Gly Asn Val Gly Met Ile Thr Leu
35 40 45

Ile Gly Leu Ser Ser His Leu His Thr Pro Met Tyr Phe Phe Val Arg
50 55 60

Ser Leu Ser Phe Ile Asp Phe Cys Gln Ser Thr Val Val Ile Pro Lys
65 70 75 80

Met Leu Met Ser Phe Leu Thr Glu Lys Asn Ile Ile Ser Tyr Ser Gly
85 90 95

Cys Met Val Gln Leu Tyr Phe Phe Phe Ile Phe Gly Ile Ala Glu Cys
100 105 110

Tyr Thr Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
115 120 125

```
Pro Leu Leu Tyr Asn Val Thr Met Ser Tyr Gln Ile Tyr Asn Ser Leu
    130                 135                 140

Ile Ser Gly Ser Tyr Ile Phe Ala Val Val Cys Ser Ser Leu Ile Thr
145                 150                 155                 160

Gly Phe Met Phe Arg Ile Gln Phe Cys Asn Leu Asp Val Ile Asn His
                165                 170                 175

Tyr Phe Cys Asp Leu Leu Pro Leu Leu Asn Leu Ala Ser Ser Asn Ile
            180                 185                 190

Tyr Ile Asn Glu Ile Leu Ile Leu Val Ile Ala Thr Leu Asn Val Phe
        195                 200                 205

Ile Pro Val Met Thr Ile Ile Thr Ser Tyr Ile Phe Ile Ile Ala Thr
    210                 215                 220

Ile Leu Tyr Ile His Ser Ser Glu Gly Lys Phe Lys Gly Phe Ser Thr
225                 230                 235                 240

Cys Ser Thr His Ile Ser Ala Val Ala Ile Phe Tyr Gly Ser Gly Ala
                245                 250                 255

Phe Thr Tyr Leu Gln Pro Ser Leu Leu Asn Ser Met Gly Gln Ala Lys
            260                 265                 270

Val Ser Ser Val Phe Cys Thr Thr Val Val Pro Met Leu Asn Pro Phe
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Ser Phe Ala Leu Lys Lys Ile
    290                 295                 300

Phe Glu Arg Lys Lys Phe Met
305                 310
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<210> 115
<211> 962
<212> DNA
<213> Homo sapiens

<400> 115
atttgaatgg aggacatggc agcaggaaac cactgcacag tgactgagtt cttcttagct 60
gggctctcag agaagccaga actccagctg ccactcttcc tgctcttcac aggaatctat 120
ctgatcacca tggcagggaa cctgggcatg atcacactga ttgggctcag ttctcatctg 180
cacacaccca tgtactattt cctcagcagt ctgtccttca ttgacttctg tcagtctaca 240
gttgtcattc ctaaaatgct cgtgagcttt ctgacagaga tgaacatcat ttcctactct 300

gaatgcatgg ctcagctcta cttcttcctc acttttggta ttgcagagtg ctacacatta 360
gctgcaatgg cctatgaccg atatgttgct atttgtaacc ccttgcttta caatgtaacc 420
atgtcctatc agatttacag ttctctgatt tcaggggtat atatttttgc tgtgatctgt 480
tcatccttta acactggctt catgcttagg actcagttct gcaatttaga tgtgattaac 540
cactatttct gtgatcttct tcccctcttg aatcttgcat cctctaatac ctacatcaat 600
gaaatattga ttctattttt tgctacactg aattcatttg tcccagtgct gaccattatt 660
acttcctaca tcttcattat tgtcaccatc ctctccattc actccaggga gggcaagttc 720
aaagctttta gtacttgtag tacccacatc tctgctgttg ctatcttcta tggttcaggt 780
gcattcacgt atttacagcc ctcatcactg aattctatgg gccaagcaaa agtgtcctct 840
gtgttttata ctactgttgt acccatgctg aacccccttga tctacagcct gaggaataag 900
gatgtcagta ttgcactgaa aaaaatactt gaaagaaaaa aattcatgta agcagaaatc 960
at 962

<210> 116
<211> 314
<212> PRT
<213> Homo sapiens

<400> 116
Met Glu Asp Met Ala Ala Gly Asn His Cys Thr Val Thr Glu Phe Phe
1 5 10 15

Leu Ala Gly Leu Ser Glu Lys Pro Glu Leu Gln Leu Pro Leu Phe Leu
20 25 30

Leu Phe Thr Gly Ile Tyr Leu Ile Thr Met Ala Gly Asn Leu Gly Met
35 40 45

Ile Thr Leu Ile Gly Leu Ser Ser His Leu His Thr Pro Met Tyr Tyr
50 55 60

Phe Leu Ser Ser Leu Ser Phe Ile Asp Phe Cys Gln Ser Thr Val Val
65 70 75 80

Ile Pro Lys Met Leu Val Ser Phe Leu Thr Glu Met Asn Ile Ile Ser
85 90 95

Tyr Ser Glu Cys Met Ala Gln Leu Tyr Phe Phe Leu Thr Phe Gly Ile
100 105 110

Ala Glu Cys Tyr Thr Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala
115 120 125

Ile Cys Asn Pro Leu Leu Tyr Asn Val Thr Met Ser Tyr Gln Ile Tyr
130 135 140

Ser Ser Leu Ile Ser Gly Val Tyr Ile Phe Ala Val Ile Cys Ser Ser

145 150 155 160

Phe Asn Thr Gly Phe Met Leu Arg Thr Gln Phe Cys Asn Leu Asp Val
165 170 175

Ile Asn His Tyr Phe Cys Asp Leu Leu Pro Leu Leu Asn Leu Ala Ser
180 185 190

Ser Asn Thr Tyr Ile Asn Glu Ile Leu Ile Leu Phe Phe Ala Thr Leu
195 200 205

Asn Ser Phe Val Pro Val Leu Thr Ile Ile Thr Ser Tyr Ile Phe Ile
210 215 220

Ile Val Thr Ile Leu Ser Ile His Ser Arg Glu Gly Lys Phe Lys Ala
225 230 235 240

Phe Ser Thr Cys Ser Thr His Ile Ser Ala Val Ala Ile Phe Tyr Gly
245 250 255

Ser Gly Ala Phe Thr Tyr Leu Gln Pro Ser Ser Leu Asn Ser Met Gly
260 265 270

Gln Ala Lys Val Ser Ser Val Phe Tyr Thr Thr Val Val Pro Met Leu
275 280 285

Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Ser Ile Ala Leu
290 295 300

Lys Lys Ile Leu Glu Arg Lys Lys Phe Met
305 310

<210> 117
<211> 1036
<212> DNA
<213> Homo sapiens

<400> 117
aacatggcag ctgcaaacca ttgcatagtg actgagttct tcttggctgg actctcagag 60
aatcaaaaag ttcagctgcc ccttttttctc ctatttgtag caatctatct gatcactgtg 120
gcaggaaacc tggggatgat tgcattgatt gggatcagtt cccacttgca cacacccatg 180
tactatttcc tcagcagtct gtccttcatt gacttctgtc agtctacagt tgttacccct 240
aaaatgttgg tgagccttct gacaaagaag aacatcatct cctactctgg atgcatggtt 300
cagctctact tcttcatcag ttttggaact gcagagtgct acacattagc tgtaatggca 360
tatgaccgct atgttgccat ttgtaacccc ctacgttaca atgtaaccat gtcctatcag 420
atttacagtt ccttgatttc aggggtgtat atttatgctg tgttctgtgc atcagtaaac 480
accggcttta taattaggat tcagttctgc aagttaaatg tgatcaacca ctatttctgt 540

gatcttcttc ccctgttgaa acttgcatgc tctaatacct atatcaatga aatattgatt 600
ctatttttg gttcagtaaa catctgtgtc ccaatgctga ctgttattac ttcctacatc 660
ttcatcattg ccagcatcct ccgtattcgc tccagtgagg gcaagttcaa agccttcagt 720
acttgcagtt cccacatctc tgctgttgct atcttgtatg gttctactgc attcacatac 780
ttacagcctt catcagtgag tttggtggac caagggaaag tgtcctctgt gttttatact 840
actgttgtac ctatgctgaa cccattgatc tacagcttga ggaataagga tgtcactctt 900
gcattgaaaa gaattcttga acaaaaaagg ctttatgtaa gcagaagtcg tgtgaagatt 960
attaattact aacatattat tgctttactc cttcaggata agaatggagg acatgacagc 1020
aggaaaccat tgcaca 1036

<210> 118
<211> 322
<212> PRT
<213> Homo sapiens

<400> 118
Met Ala Ala Ala Asn His Cys Ile Val Thr Glu Phe Phe Leu Ala Gly
1 5 10 15

Leu Ser Glu Asn Gln Lys Val Gln Leu Pro Leu Phe Leu Leu Phe Val
20 25 30

Ala Ile Tyr Leu Ile Thr Val Ala Gly Asn Leu Gly Met Ile Ala Leu
35 40 45

Ile Gly Ile Ser Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
50 55 60

Ser Leu Ser Phe Ile Asp Phe Cys Gln Ser Thr Val Val Thr Pro Lys
65 70 75 80

Met Leu Val Ser Leu Leu Thr Lys Lys Asn Ile Ile Ser Tyr Ser Gly
85 90 95

Cys Met Val Gln Leu Tyr Phe Phe Ile Ser Phe Gly Thr Ala Glu Cys
100 105 110

Tyr Thr Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
115 120 125

Pro Leu Arg Tyr Asn Val Thr Met Ser Tyr Gln Ile Tyr Ser Ser Leu
130 135 140

Ile Ser Gly Val Tyr Ile Tyr Ala Val Phe Cys Ala Ser Val Asn Thr
145 150 155 160

Gly Phe Ile Ile Arg Ile Gln Phe Cys Lys Leu Asn Val Ile Asn His

```
                165                 170                 175

Tyr Phe Cys Asp Leu Leu Pro Leu Leu Lys Leu Ala Cys Ser Asn Thr
            180                 185                 190

Tyr Ile Asn Glu Ile Leu Ile Leu Phe Phe Gly Ser Val Asn Ile Cys
        195                 200                 205

Val Pro Met Leu Thr Val Ile Thr Ser Tyr Ile Phe Ile Ile Ala Ser
    210                 215                 220

Ile Leu Arg Ile Arg Ser Ser Glu Gly Lys Phe Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Ser Ser His Ile Ser Ala Val Ala Ile Leu Tyr Gly Ser Thr Ala
                245                 250                 255

Phe Thr Tyr Leu Gln Pro Ser Ser Val Ser Leu Val Asp Gln Gly Lys
            260                 265                 270

Val Ser Ser Val Phe Tyr Thr Thr Val Val Pro Met Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Thr Leu Ala Leu Lys Arg Ile
    290                 295                 300

Leu Glu Gln Lys Arg Leu Tyr Val Ser Arg Ser Arg Val Lys Ile Ile
305                 310                 315                 320

Asn Tyr
```

<210> 119
<211> 964
<212> DNA
<213> Homo sapiens

<400> 119
ctgattcatc cataaacatg acaaaccaca ctatggtgac agaattcacc ttgctgggca 60
tccctgagac agagggcctg gaaaatgccc tgctttttct gttttcaaca atgtatgcct 120
gtgccctgct gggaaacttt ctcattctta ctgcaatcac tacctcccca agactacaca 180
cacccatgta ctttttcttg ggaaacctct ccatctttga cttaggtttc tgttccacta 240
cagctccaaa gatgttgtca tatctctcag gatggggtgg agggatctct tttcagggat 300
gtgttgtaca acacttcttc tatcattgtc tgggttgcac attgtgtttc ttgtacacag 360
tgatggccta tgaccgcttt gttgccatat gcttcccttt gagatacaca atcatcatga 420
accacagagt atgctgtgtc ttggccacag ggacctggat gagtggctgt gtgcatgcca 480
ccatcctaac ttccctcact ttccagttgc cctactgtgg ccccagtgag gtgagttatt 540

acttctgtga catgcctgca gtgttactgc tagcctgtga agattcctct ctagcacaga 600
gggtaggttt cacaaatgtt ggtcttttat ctctcatttg tttctttctc attattgtat 660
cctacactcg aattgggatc tccatctcaa aaatccgctc aacagaaggc aggcagagag 720
cgttctccac ctgcagtgcc cacctcacag ccatcatgtg tgtctatgga cctgtcatcg 780
tcatctacct acagcccaac cctagtccat tgcttagtgc gattattcag attttgcaca 840
atcttgtgac acccaccatc aacccattga tctacagcct gaggaacaag gatgtgaaag 900
cagccctgag gcatgtattt cttaagaggt gtcttagcct ggaagtaaat gaaaacagct 960
aagt 964

<210> 120
<211> 314
<212> PRT
<213> Homo sapiens

<400> 120
Met Thr Asn His Thr Met Val Thr Glu Phe Thr Leu Leu Gly Ile Pro
1 5 10 15

Glu Thr Glu Gly Leu Glu Asn Ala Leu Leu Phe Leu Phe Ser Thr Met
20 25 30

Tyr Ala Cys Ala Leu Leu Gly Asn Phe Leu Ile Leu Thr Ala Ile Thr
35 40 45

Thr Ser Pro Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly Asn Leu
50 55 60

Ser Ile Phe Asp Leu Gly Phe Cys Ser Thr Thr Ala Pro Lys Met Leu
65 70 75 80

Ser Tyr Leu Ser Gly Trp Gly Gly Gly Ile Ser Phe Gln Gly Cys Val
85 90 95

Val Gln His Phe Phe Tyr His Cys Leu Gly Cys Thr Leu Cys Phe Leu
100 105 110

Tyr Thr Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Phe Pro Leu
115 120 125

Arg Tyr Thr Ile Ile Met Asn His Arg Val Cys Cys Val Leu Ala Thr
130 135 140

Gly Thr Trp Met Ser Gly Cys Val His Ala Thr Ile Leu Thr Ser Leu
145 150 155 160

Thr Phe Gln Leu Pro Tyr Cys Gly Pro Ser Glu Val Ser Tyr Tyr Phe
165 170 175

```
Cys Asp Met Pro Ala Val Leu Leu Leu Ala Cys Glu Asp Ser Ser Leu
            180                 185                 190

Ala Gln Arg Val Gly Phe Thr Asn Val Gly Leu Leu Ser Leu Ile Cys
        195                 200                 205

Phe Phe Leu Ile Ile Val Ser Tyr Thr Arg Ile Gly Ile Ser Ile Ser
    210                 215                 220

Lys Ile Arg Ser Thr Glu Gly Arg Gln Arg Ala Phe Ser Thr Cys Ser
225                 230                 235                 240

Ala His Leu Thr Ala Ile Met Cys Val Tyr Gly Pro Val Ile Val Ile
                245                 250                 255

Tyr Leu Gln Pro Asn Pro Ser Pro Leu Leu Ser Ala Ile Ile Gln Ile
            260                 265                 270

Leu His Asn Leu Val Thr Pro Thr Ile Asn Pro Leu Ile Tyr Ser Leu
        275                 280                 285

Arg Asn Lys Asp Val Lys Ala Ala Leu Arg His Val Phe Leu Lys Arg
    290                 295                 300

Cys Leu Ser Leu Glu Val Asn Glu Asn Ser
305                 310
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<210> 121
<211> 940
<212> DNA
<213> Homo sapiens

<400> 121
aatggctgta ggaaattcct cttcagtgaa agaatttatt ctgctgggct tgacacaaga 60
gccagagctc cagctgccgc tcttctttct cttcttggga atctatgtgg tctctgtgat 120
ggggaacctg ggcttgattg ttctgattgt gttgaatcct cccctgcaca cccccatgta 180
ctactttctc ttcaaccttt ccttcacaga tctctgctac tccactgtca taacccccag 240
aatgctggtg ggttttgtga agcagaacac catctctcat gcagagtgta tgactcagct 300
ttttttcttc tgcttctttg ttattgatga atgctacatt ttgacagcaa tggcctatga 360
cagatatgct gccatctgta agcccctgct ttaccaggtc accatgtccc atcaggtctg 420
cctcttgatg acagtgggga tgtatgtgat ggggcttgtg ggtgccatag cccacattgt 480
ttgcatgctg agactcacct tctgtgaagg ccacataatt aatcactaca tgtgtgacat 540
acccccctct ctgaagctct cctgcacaag tacctacatc aatgagctgg tagttttcat 600
tgttgtgggt gtcaatgtga tagttcctac attgactatt tttattactt ataccttaat 660
cctttccaac atcctcagca tccattctgc agaaggtaga tcaaaagcct tcagtacctg 720
tggctcccat gtgatagctg tttctctttt ctttggagct gcagccttca tgtatcttaa 780

gccttctagt gcatctgtgg atgaagagaa attatcaacc atttttttata ccattgtggg 840
cccaatgttg aatcctttca tctatagcat aaggaataag gatgttcaca ttgcactgag 900
aaaaactttg aagaaaagta tgtttactta aatagaatct 940

<210> 122
<211> 309
<212> PRT
<213> Homo sapiens

<400> 122
Met Ala Val Gly Asn Ser Ser Ser Val Lys Glu Phe Ile Leu Leu Gly
1 5 10 15

Leu Thr Gln Glu Pro Glu Leu Gln Leu Pro Leu Phe Phe Leu Phe Leu
20 25 30

Gly Ile Tyr Val Val Ser Val Met Gly Asn Leu Gly Leu Ile Val Leu
35 40 45

Ile Val Leu Asn Pro Pro Leu His Thr Pro Met Tyr Tyr Phe Leu Phe
50 55 60

Asn Leu Ser Phe Thr Asp Leu Cys Tyr Ser Thr Val Ile Thr Pro Arg
65 70 75 80

Met Leu Val Gly Phe Val Lys Gln Asn Thr Ile Ser His Ala Glu Cys
85 90 95

Met Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Ile Asp Glu Cys Tyr
100 105 110

Ile Leu Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Lys Pro
115 120 125

Leu Leu Tyr Gln Val Thr Met Ser His Gln Val Cys Leu Leu Met Thr
130 135 140

Val Gly Met Tyr Val Met Gly Leu Val Gly Ala Ile Ala His Ile Val
145 150 155 160

Cys Met Leu Arg Leu Thr Phe Cys Glu Gly His Ile Ile Asn His Tyr
165 170 175

Met Cys Asp Ile Pro Pro Leu Leu Lys Leu Ser Cys Thr Ser Thr Tyr
180 185 190

Ile Asn Glu Leu Val Val Phe Ile Val Val Gly Val Asn Val Ile Val

```
        195                 200                 205

Pro Thr Leu Thr Ile Phe Ile Thr Tyr Thr Leu Ile Leu Ser Asn Ile
    210                 215                 220

Leu Ser Ile His Ser Ala Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys
225                 230                 235                 240

Gly Ser His Val Ile Ala Val Ser Leu Phe Phe Gly Ala Ala Ala Phe
                245                 250                 255

Met Tyr Leu Lys Pro Ser Ser Ala Ser Val Asp Glu Glu Lys Leu Ser
            260                 265                 270

Thr Ile Phe Tyr Thr Ile Val Gly Pro Met Leu Asn Pro Phe Ile Tyr
        275                 280                 285

Ser Ile Arg Asn Lys Asp Val His Ile Ala Leu Arg Lys Thr Leu Lys
    290                 295                 300

Lys Ser Met Phe Thr
305
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<210> 123
<211> 942
<212> DNA
<213> Homo sapiens

<400> 123

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aatatttttg aatggagaat gactcttctg tgactgagtt tgtttttatg ggattaacag 60
aacaacctga gttacggctg cctttgtttt ttgtgttctt gctgaattat acagctaccg 120
tgatgggaaa tttgagctta atggttctta tttgtctgaa ttcacacctt cacaacccca 180
tgtacttttt cttgttcaat ttatccttgg ttgatttctg ttattcattt gtttgtaccc 240
ctaaaatgct aatgggtttt gtttctgaaa aaagcatcat atcttataca ggatgcatga 300
ctcagctatt ctttttctgc ttttttgtta attctgagtg ttatgtgctg acagcaatgg 360
cctatgatcg ttatgtggcc atctgtaagc cattggtata tgccatcctt atgtctcctc 420
ggatgtgttc cctgctaatg attgggtcct acttaatggg atttgcaagt gccatggctc 480
atactggctg catgattagg ctcaagtttt gtgattcgaa catcatcaac cattacatgt 540
gtgaaatatt ccccctgctc cagctctcct gcagtagtac ctatgccaat gaacttgtga 600
gctctcttat tgcctgtata gttgtcattg tatctggtct tgttatctta atgtcatatg 660
cttccatcct cttaaatgtt gttcagatgt catcagctac aggttggtcc aaagccatgg 720
gtacttgtgg ttcccatatc ataactgtta gtctattcta tggttctgga ctgcttactt 780
atgtcaaacc agcatccgct gaatctgtag atcaggggaa atttttctca gtgttttata 840
ctcttatggt tcccatgctg aatcctctta tttacagtct caggaacaag gatgtcaaat 900
attctaatgt tactattttt actattctca cttagacatg at                    942
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<210> 124
<211> 307
<212> PRT
<213> Homo sapiens

<400> 124
Met Glu Asn Asp Ser Ser Val Thr Glu Phe Val Phe Met Gly Leu Thr
1 5 10 15

Glu Gln Pro Glu Leu Arg Leu Pro Leu Phe Phe Val Phe Leu Leu Asn
20 25 30

Tyr Thr Ala Thr Val Met Gly Asn Leu Ser Leu Met Val Leu Ile Cys
35 40 45

Leu Asn Ser His Leu His Asn Pro Met Tyr Phe Phe Leu Phe Asn Leu
50 55 60

Ser Leu Val Asp Phe Cys Tyr Ser Phe Val Cys Thr Pro Lys Met Leu
65 70 75 80

Met Gly Phe Val Ser Glu Lys Ser Ile Ile Ser Tyr Thr Gly Cys Met
85 90 95

Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Asn Ser Glu Cys Tyr Val
100 105 110

Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
115 120 125

Val Tyr Ala Ile Leu Met Ser Pro Arg Met Cys Ser Leu Leu Met Ile
130 135 140

Gly Ser Tyr Leu Met Gly Phe Ala Ser Ala Met Ala His Thr Gly Cys
145 150 155 160

Met Ile Arg Leu Lys Phe Cys Asp Ser Asn Ile Ile Asn His Tyr Met
165 170 175

Cys Glu Ile Phe Pro Leu Leu Gln Leu Ser Cys Ser Ser Thr Tyr Ala
180 185 190

Asn Glu Leu Val Ser Ser Leu Ile Ala Cys Ile Val Val Ile Val Ser
195 200 205

Gly Leu Val Ile Leu Met Ser Tyr Ala Ser Ile Leu Leu Asn Val Val
210 215 220

Gln Met Ser Ser Ala Thr Gly Trp Ser Lys Ala Met Gly Thr Cys Gly
225 230 235 240

Ser His Ile Ile Thr Val Ser Leu Phe Tyr Gly Ser Gly Leu Leu Thr
245 250 255

Tyr Val Lys Pro Ala Ser Ala Glu Ser Val Asp Gln Gly Lys Phe Phe
260 265 270

Ser Val Phe Tyr Thr Leu Met Val Pro Met Leu Asn Pro Leu Ile Tyr
275 280 285

Ser Leu Arg Asn Lys Asp Val Lys Tyr Ser Asn Val Thr Ile Phe Thr
290 295 300

Ile Leu Thr
305

<210> 125
<211> 934
<212> DNA
<213> Homo sapiens

<400> 125
aatggctcca agaaatagct cctctgtgac tgaatttatc cttgtgggat tttcaaacca 60
accagctctc cagctgcctc tcttcttcgt cttcttaggt atctatgtgc tgactgttat 120
aggcaatttg ggactgatca ccttaattgg gttgaattcc agtcttcata ctccaatgta 180
ctttttcctc ttcaacttgt cctttataga tttctgttat tcctgtgtgt tcacgccaaa 240
aatgttgagt gattttgtct cagaaaacat tatctcctac atgggatgca tgactcaact 300
gtttttcttc tgtttctttg tcaattctga atgctacgtg ctggtgtcaa tggcctatga 360
tcgctatgtg gccatttgca atcctctgct gtacacagtt accatgtctc ctcaggtctg 420
cactctgctg atgttttgtt catatgtgat agggtttgct ggagccatgg cccatactgg 480
aagcatgctg acacttactt tctgtgattc caatatgatc caccattatc tctgtgaagt 540
tcttcccctt ttacagctct cctgcaccag tacctatgcc aacgagcttg tgttttttat 600
tgttgttgga gtagtcatca cagcatccag catcagcatc tttatctctt atgcattgat 660
tctctccaac attcttaaga ttccttctgc tgaaggtaga tccaaagcct ttggcacatg 720
tggttcccat gtagttgctg ttgctctgtt ttttgggtca ggggcattca cctatttaac 780
aacctctttc cctggttcaa tggaagaggg aaggtttgct tcagtatttt ataccaatgt 840
ggttcccatg cttaacccac tgatctatag tttgaggaat aaagacgtta aacttgccct 900
aaataaaacc ttgaagagag tgctcttctg atga 934

<210> 126
<211> 309
<212> PRT
<213> Homo sapiens

<400> 126

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Met Ala Pro Arg Asn Ser Ser Ser Val Thr Glu Phe Ile Leu Val Gly
  1               5                  10                  15

Phe Ser Asn Gln Pro Ala Leu Gln Leu Pro Leu Phe Phe Val Phe Leu
             20                  25                  30

Gly Ile Tyr Val Leu Thr Val Ile Gly Asn Leu Gly Leu Ile Thr Leu
         35                  40                  45

Ile Gly Leu Asn Ser Ser Leu His Thr Pro Met Tyr Phe Phe Leu Phe
     50                  55                  60

Asn Leu Ser Phe Ile Asp Phe Cys Tyr Ser Cys Val Phe Thr Pro Lys
 65                  70                  75                  80

Met Leu Ser Asp Phe Val Ser Glu Asn Ile Ile Ser Tyr Met Gly Cys
                 85                  90                  95

Met Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Asn Ser Glu Cys Tyr
            100                 105                 110

Val Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro
        115                 120                 125

Leu Leu Tyr Thr Val Thr Met Ser Pro Gln Val Cys Thr Leu Leu Met
    130                 135                 140

Phe Cys Ser Tyr Val Ile Gly Phe Ala Gly Ala Met Ala His Thr Gly
145                 150                 155                 160

Ser Met Leu Thr Leu Thr Phe Cys Asp Ser Asn Met Ile His His Tyr
                165                 170                 175

Leu Cys Glu Val Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr Tyr
            180                 185                 190

Ala Asn Glu Leu Val Phe Phe Ile Val Val Gly Val Val Ile Thr Ala
        195                 200                 205

Ser Ser Ile Ser Ile Phe Ile Ser Tyr Ala Leu Ile Leu Ser Asn Ile
    210                 215                 220

Leu Lys Ile Pro Ser Ala Glu Gly Arg Ser Lys Ala Phe Gly Thr Cys
225                 230                 235                 240

Gly Ser His Val Val Ala Val Ala Leu Phe Phe Gly Ser Gly Ala Phe
                245                 250                 255
```

Thr Tyr Leu Thr Thr Ser Phe Pro Gly Ser Met Glu Glu Gly Arg Phe
260 265 270

Ala Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile
275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Leu Ala Leu Asn Lys Thr Leu
290 295 300

Lys Arg Val Leu Phe
305

<210> 127
<211> 945
<212> DNA
<213> Homo sapiens

<400> 127
actatggaaa atgattcttc tgtgtctgag tttattctta tgggactgac agaccaacct 60
gagctccagc tgcccttatt tgttctgttc ttggtgaact acacagtcac tgtgatggga 120
aatttgagct taatgaatct catttgccta aactcaaacc ttcacacccc catgtacttt 180
ttcatcttca acctgtcctt cattgacttc tgttattcaa tggtctttac ccccaaaatg 240
ctgatgggct ttgttgtaga gaagaacatc atctccttca gaggatgcat gactcagctg 300
tttttcttct tatttttttgt gaactctgag agttatgtgc tgacagcaat ggcctatgat 360
cgctatgtgg ccatctgtca gccactgctc tacaaagctg ttatgtcacc tggcatctgc 420
tttctattga tattttgtac ttatttgatg gggcttgtta gtgccttatt ccatacaggt 480
tttatgataa ggctcaactt ttgtgattct aatgttatca accactatat gtgtgatatc 540
ttccctctct ttcggctctc ctgcagtagc acctatctca ctgagcttgt gagctctgct 600
gtggtgggta cagctattat cttatgttgc ctcattatct taatctctta tggtatgatc 660
ctttacaata tcattcatat gtcatcaggt aagggttggt ccaaagcctt gggcacttgt 720
ggttctcaca ttataactgt tagcttgttc tatgtaactg ggatgcttgc ttatgtcaag 780
ccatcatctg ctgagactgt gggacagggg aaaattttct cagtatttta cacttttttg 840
gtgcccatgc tgaatcctct tatttacagc ctcagaaaca aggatgtcaa acttgctgtg 900
aaaaaaacct ggaagagact cacatgttaa attacccatt caaac 945

<210> 128
<211> 308
<212> PRT
<213> Homo sapiens

<400> 128
Met Glu Asn Asp Ser Ser Val Ser Glu Phe Ile Leu Met Gly Leu Thr
1 5 10 15

Asp Gln Pro Glu Leu Gln Leu Pro Leu Phe Val Leu Phe Leu Val Asn

```
            20                  25                  30

Tyr Thr Val Thr Val Met Gly Asn Leu Ser Leu Met Asn Leu Ile Cys
         35                  40                  45

Leu Asn Ser Asn Leu His Thr Pro Met Tyr Phe Phe Ile Phe Asn Leu
     50                  55                  60

Ser Phe Ile Asp Phe Cys Tyr Ser Met Val Phe Thr Pro Lys Met Leu
 65                  70                  75                  80

Met Gly Phe Val Val Glu Lys Asn Ile Ile Ser Phe Arg Gly Cys Met
                 85                  90                  95

Thr Gln Leu Phe Phe Phe Leu Phe Phe Val Asn Ser Glu Ser Tyr Val
            100                 105                 110

Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Gln Pro Leu
        115                 120                 125

Leu Tyr Lys Ala Val Met Ser Pro Gly Ile Cys Phe Leu Leu Ile Phe
    130                 135                 140

Cys Thr Tyr Leu Met Gly Leu Val Ser Ala Leu Phe His Thr Gly Phe
145                 150                 155                 160

Met Ile Arg Leu Asn Phe Cys Asp Ser Asn Val Ile Asn His Tyr Met
                165                 170                 175

Cys Asp Ile Phe Pro Leu Phe Arg Leu Ser Cys Ser Ser Thr Tyr Leu
            180                 185                 190

Thr Glu Leu Val Ser Ser Ala Val Val Gly Thr Ala Ile Ile Leu Cys
        195                 200                 205

Cys Leu Ile Ile Leu Ile Ser Tyr Gly Met Ile Leu Tyr Asn Ile Ile
    210                 215                 220

His Met Ser Ser Gly Lys Gly Trp Ser Lys Ala Leu Gly Thr Cys Gly
225                 230                 235                 240

Ser His Ile Ile Thr Val Ser Leu Phe Tyr Val Thr Gly Met Leu Ala
                245                 250                 255

Tyr Val Lys Pro Ser Ser Ala Glu Thr Val Gly Gln Gly Lys Ile Phe
            260                 265                 270

Ser Val Phe Tyr Thr Phe Leu Val Pro Met Leu Asn Pro Leu Ile Tyr
```

275 280 285

Ser Leu Arg Asn Lys Asp Val Lys Leu Ala Val Lys Lys Thr Trp Lys
290 295 300

Arg Leu Thr Cys
305